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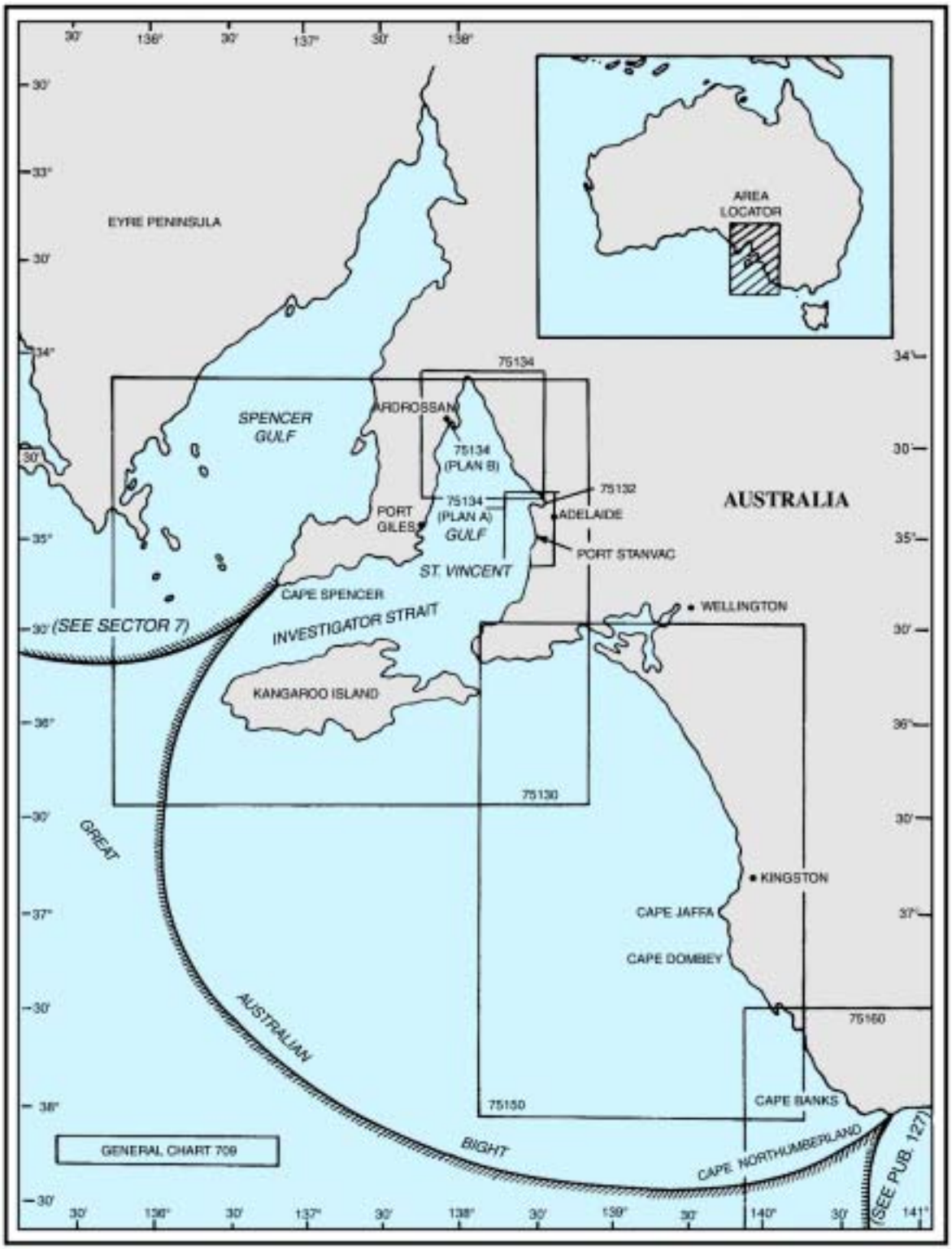

Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR **8** —CHAR T INFORMATION

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SECTOR 8

CAPE SPENCER TO CAPE NORTHUMBERLAND INCLUDING KANGAROO ISLAND, INVESTIGATOR STRAIT, AND GULF ST. VINCNET

Plan.—This sector describes the S coast of Australia between Cape Spencer and Cape Northumberland and includes Kangaroo Island, Investigator Strait, and Gulf St. Vincent. The descriptive sequence is SE.

General Remarks

8.1 The S coast of Australia between Cape Spencer and Cape Northumberland, about 253 miles SE, is indented in its NW part by Gulf St. Vincent, which lies between Yorke Peninsula to the W and Fleurieu Peninsula to the E. The central part of the gulf is deep and clear of dangers, but both shores are fringed by shoals with depths of 9.1m and less. In some places these shoals extend up to 12 miles offshore, especially in the N part of the gulf.

Several commercial ports are located within the limits of the gulf and are available to vessels of moderate to deep draft. Port Adelaide, the largest berthing facility, is located on the E shore of the gulf about 55 miles N of the entrance.

Kangaroo Island, an elongated island, high and wooded, lies across the entrance of the Gulf St. Vincent.

Investigator Strait, the most direct channel between Spencer Gulf and Gulf St. Vincent, lies between the N coast of Kangaroo Island and the S coast of Yorke Peninsula.

Depths in the strait seaward of the fringing shoals are deep. Backstairs Passage, the E entrance to Gulf St. Vincent and Investigator Strait, lies between Macdonnell Peninsula, on the E end of Kangaroo Island, and the W end of Fleurieu Peninsula, about 7 miles to the NE. It is navigable by the largest vessels and presents no difficulties.

Anchorage can be taken in some of the bays which indent the shores of Kangaroo Island. Kingscote, the principal town, is located on the NE part of the island, and has alongside berthing facilities for small vessels.

The mainland coast between Cape Jervis and Cape Jaffa, about 115 miles SSE, turns abruptly E and then SSE forming a large embayment. The Murray River, the largest river in Australia, empties into the sea about 37 miles E of Cape Jervis after crossing Lake Alexandrina, a shallow lagoon.

The coast between the entrance of the Murray River and Cape Jaffa, at the S end of Lacepede Bay, about 92 miles SSE, consists of a continuous stretch of sandy beach backed by sand hills which are so much alike that it is difficult to identify any of them. The surf is always heavy along this section of coast and during W and SW gales this surf extends up to 4 miles offshore in places.

Lacepede Bay, although exposed to the prevailing swell, provides safe anchorage in all weather.

Kingston, the port for the offshore anchorage area known as Port Caroline, is located about 11 miles NE of Cape Jaffa. Only fishing vessels can be accommodated.

The coast between Cape Jaffa and Cape Northumberland, about 83 miles SSE, continues low and sandy and is marked in places by moderately high sand dunes topped by a few trees. Anchorage can be taken off the entrances of the bays which indent the coast along this section of coast, but with onshore winds a heavy swell rolls in.

Winds—W eather.—In the region covered by this sector, the weather is largely controlled by the seasonal N and S movement of the belt of high pressure which extends from W to E across the area, and by the continuous E procession, within the belt, of anticyclones and the troughs or depressions which separate them. The winds circulate in a counterclockwise direction in this area of high pressure.

There is a tendency along the coast for winds between S and E to predominate in the summer and for winds between N and W to be most frequent in July. This seasonal tendency is greatly complicated by the local sea breeze effect.

Land and sea breezes blow on the coasts, in settled weather, throughout the year. The land breeze blows offshore at night and in the early morning, while the sea breeze is best developed during summer afternoons.

At Adelaide, the sea breeze from the SW is pronounced in the afternoon, except in the winter; in the morning the winds are mainly from between N and E. In the winter, the NE land breeze is prominent in the forenoon, while in the afternoon, the winds are mainly from between W and N.

Strong winds are frequent, with their frequency and strength increasing from N to S. It is difficult to assess the frequency of squalls and gales, but it is not unlikely that gales accompany every cold front that crosses the area. These wind changes occur at least once per week; in certain seasons and under some meteorological situations they are more frequent, and if intense, the associated gales may extend intermittently over a few days. Gales have been reported in every month at Adelaide, with the highest frequency occurring in the early winter months.

Visibility is generally good and fog is infrequent. Temperatures are high in the summer near the coast, but low humidity reduces personal discomfort. The winters are mile and frost is rare. from time to time tropical depressions affect these coasts and are a serious, though infrequent, hazard.

There is a marked winter maximum and marked summer minimum in the annual coarse of rainfall.

The S depression, with its accompanying mainly onshore winds, is responsible for the greatest portion of the rain. The depressions and rainfall are most frequent from May to august, with the greatest intensities occurring in June and July.

Tides—Curr ents.—There is a seasonal variation of currents in this sector, almost entirely due to the S movement of the subtropical anticyclones in the summer. The currents are fairly weak, with a commonly experienced rate of about 0.25 knot. From January to March, the currents are predominantly ESE, while from April to December, the currents are predominantly WNW and NW.

Caution.—Special care is required when navigating along the coast between Cape Martin and Cape Northumberland, about 40 miles to the SE. The prevailing winds are from the SW. A continuous swell sets toward the coast which, together with the uneven bottom, produces an irregular sea. In bad weather, with S winds, soundings should be taken frequently. Several vessels have been wrecked between Cape Buffon and Cape Northumberland from neglecting this precaution.

From November to June, extensive lobster fishing takes place on the continental shelf, inshore of the 150m curve between Cape Jaffa and Cape Northumberland. Vessels are requested, when passage permits, to transit outside the 200m curve, and also to pass at least 10 miles seaward of Cape Banks.

Kangaroo Island—W est Coast

8.2 Kangaroo Island (35˚ 49'S., 137˚ 15'E.), which stands at the entrance of Gulf St. Vincent, is high and well-wooded.

Cape Borda (3˚ 46'S., 136˚ 35'E.), the NW point of Kangaroo Island, is a bold, cliffy headland, 61m high. The upper half of the cliff is formed of white limestone, and the lower half is very dark volcanic rock. The hills at the cape rise to a height of more than 152m and are covered with small scrub. Cape Borda has been reported to be a good radar target at distances up to 25 miles. A light is exhibited at Cape Borda from the slope of a hill, about 0.3 mile S of the cape.

Courtesy of Peter Coombs and Malcom Macdonald's Lighthouses of Australia Page

Cape Borda Light

The coast between Cape Borda and Cape Vennachar, the N point of West Bay, about 8 miles to the S, is composed of dark limestone cliffs, 61m high. Numerous caves, into which the sea runs, mark the face of these cliffs. The Ravine de Casoars, a break in the cliffs about 2.5 miles S of Cape Borda, can be seen from a considerable distance. Scrub-covered hills, 152 to 183m high, rise behind the cliffs. This part of the coast should be carefully avoided as the ocean swell rolls in with considerable force.

During a heavy W swell, there are rollers off the Ravine de Casoars to a distance of about 1 mile. Depths of 21.9m are found about 1 mile offshore for a distance of about 2 miles S from Cape Borda. Farther S the depths are greater.

West Bay (35˚ 53'S., 136˚ 33'E.) lies between the S point of Cape Vennachar and a point about 1 mile farther S. A low islet lies about 0.3 mile off this point. The depths within the bay decrease gradually from 18.3m in the entrance to 7.3m near its head.

Small vessels with local knowledge sometimes anchor in the bay, but the heavy swell which rolls in with a W wind makes this a risky proceeding. The heavy swells are accompanied by rollers about 1 mile S of the entrance. The terrain S of West Bay is much lower than the land to the N.

Cape Bedout (35˚ 57'S., 136˚ 36'E.), about 3.5 miles SSE of the S point of West Bay, is a round point with a scrubby hill at the back. The coast between Cape Bedout and a low sloping point a little more than 1 mile to the SE forms a bight with a sandy beach at its head. The bight in the coast between this low point and Cape du Couedic, about 8 miles to the SE, is known as Maupertuis Bay.

The coast between the NW point of this bay and the mouth of the Rocky River, about 3 miles to the E, consists of low cliffs backed by scrub-covered hills, 30.5 to 45.7m high. A conspicuous bare sand patch extends about 0.75 mile S from a position about 0.5 mile S of the Rocky River. This patch slopes downward from sand hills about 91m high. Southeast of this patch, the cliffs rise to a height of 143m within a distance of 1 mile of Cape du Couedic. The inland hills are highest about 4 miles N of the cape, where the summit of a partially wooded range is 218m high.

8.3 Cape du Couedic (36˚ 06'S., 136˚ 42'E.), the SW tip of Kangaroo Island, is a narrow promontory about 1 mile long. Its SW face slopes to the sea whereas its N and S sides are steep. In 1984, depths of 24m and 12.8m were reported to lie 3.25 miles SE and 21.5 miles E, respectively, of Cape du Couedic. A light is exhibited at the cape.

Cape du Couedic Light

Casuarina Islets (36˚ 04'S., 136˚ 43'E.), two in number, lie S of Cape du Couedic. The N islet is 29m high and the S islet is 35m high. Both islets are composed of large bare rocks. The S islet has been reported to be a good radar target at distances up to 17 miles.

Deep water, over a rocky bottom, is found between the islets. There is a heavy tide rip SW of the S islet. A shoal, with a least depth of 7.3m and surrounded by rocky, uneven ground, lies about 2 miles SW of the S islet.

Tides—Curr ents.—The eastgoing current divides at Cape du Couedic, with one part setting N along the W coast and

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strengthening the flood; the ebb sets S but is overcome at times by the N current and the flood.

Caution.—Lipson Reef (36° 10'S., 136° 50'E.) lies about 8.25 miles SE of Cape du Couedic. The portion above water is 3m high and small in extent. An area of broken water surrounds the reef. A heavy swell usually breaks over this reef. There are considerable depths about 1 mile off the reef, but this area has not been closely examined.

In 1984, a depth of 20m was reported to lie about 4 miles NE of Lipson Reef. A depth of 7.9m lies 1 mile SE of Lipson Reef.

Kangaroo Island—South Coast

8.4 The coast for about 2 miles NE from Cape du Couedic consists of high, steep cliffs, and is steep-to. Farther E, a sandy beach backed by steep cliffs extends about 1.25 miles to Kirkpatrick Point. The cliffs over the W end of the beach rise to a height of 131m.

Kirkpatrick Point (36° 03'S., 136° 46'E.), a sloping point about 76m high, is marked by three conspicuous boulders on its top. One boulder is about 30.5m high.

Weirs Cove (36° 03'S., 136° 45'E.), entered close W of Kirkpatrick Point, has a small jetty, with a depth of 3m alongside, extending from its head.

Sanderson Bay (36° 02'S., 136° 48'E.) lies between Kirkpatrick Point and Cape Younghusband, about 2.5 miles ENE. Fairly high cliffs border the sandy shore.

Hanson Bay (36° 02'S., 136° 52'E.), entered between Cape Younghusband and Cape Bouguer, about 4 miles E, has depths of 18.3 to 35m over a rocky bottom. This bay is not available as an anchorage because it is open to the prevailing winds. The W and E shores of the bay are cliffy, with hills behind them about 91m high. There are four sandy beaches, with low land behind them, in the N part of the bay. A detached rock, about 15.2m high, stands 0.5 mile E of Cape Younghusband.

Cape Bouguer (36° 02'S., 136° 55'E.), about 1 mile wide, has three cliffy projections with rocks at their base. Wooded hills, 91m high, stand N of the cape. A conspicuous clump of trees on a plateau about 11.5 miles N of the cape can be seen off this part of the coast.

Caution.—Douglas Rock (36° 03'S., 136° 51'E.), an isolated pinnacle rock, awash, lies 2.5 miles W of Cape Bouguer. It has depths of not less than 25.5m surrounding it and the sea does not always break over it. Vessels of any size are advised to pass outside Douglas Rock.

8.5 The coast between Cape Bouguer and Cape Kersaint, about 10 miles E, consists of low cliffs and scrubby rises. A remarkable sand patch lies at the top of a cliff, close to the coast, about 2 miles NE of Cape Bouguer. A sunken reef extends about 0.3 mile S from a point about 0.75 mile E of the sand patch. A river flows into the sea, over a sandy beach, about 2.5 miles farther ENE.

Cape Kersaint (36° 02'S., 137° 07'E.) is a bold cliffy headland, with a scrub-covered hill, 96m high, above it. A SW swell rolls in with great force on this part of the island; it is advisable to give this coast a wide berth between Cape Bouguer and Cape Kersaint.

Caution.—Northwest Snare (36° 02'S., 137° 11'E.) is a dangerous pinnacle rock that lies about 2 miles offshore, 3 miles E of Cape Kersaint. There are depths of 3.6m over it and depths of more than 18.3m close around it. It breaks heavily with a big swell, but only occasionally when the sea is smooth.

An 8.2m patch was reported (1960) to lie about 4 miles SSE of Cape Kersaint, and an 18.3m shoal was reported (1961) to lie about 4 miles SSW of the same cape; a 12.8m shoal was reported (1984) to lie 2.5 miles ENE of the 18.3m shoal.

Southeast Snare, a dangerous pinnacle rock, lies 7 miles ESE of Cape Kersaint. There are depths of 5.5m over it, and depths of more than 18.3m close around it. It does not break as often as Northwest Snare and a good lookout is necessary when in its vicinity. It breaks heavily in bad weather. During a heavy swell, there are rollers in depths of 12.8 to 16.5m over some irregular ground about 1 mile S of Nobby Islet. This area should be avoided because of the possibility of lesser depths.

A group of above-water rocks lies between 17 and 23 miles SE of Cape Kersaint. As they are above-water rocks, they are not dangerous by day in clear weather but at night they should be given a wide berth.

Young Rocks (36° 23'S., 137° 15'E.) is a group of three above-water rocks and a sunken rock. The largest rock, 9.1m high, lies 21.5 miles SSE of Cape Kersaint. Two low rocks, close together, lie about 0.25 mile NE of the 9.1m rock, and a sunken rock lies about the same distance SW of it. A bank, with a depth of 14.6m at its N end and depths of 10m close S, lies about 0.5 mile SE of the 9.1m rock. In 1989, Young Rocks were reported to lie 1.1 miles ESE of their charted position.

North Rock (36° 18'S., 137° 15'E.), about 3m high, lies about 4.25 miles N of the largest of the Young Rocks. The sea usually breaks completely over it. **Southwest Rock** (36° 23'S., 137° 13'E.), 1.5m high, lies 2.25 miles SW of the largest of the Young Rocks. In 1989, North Rock and Southwest Rock were reported to lie 1.4 miles ESE of their charted positions.

8.6 A small bight lies between Cape Kersaint and a point, 59m high, about 1 mile to the ENE. There are depths of 16.5 to 18.3m within this bight and depths of 24m close to the S side of the point. The cliffs between this point and Ellen Point, about 2 miles NE, gradually decrease in elevation; there are depths of 11 to 16.5m about 0.25 mile offshore.

Ellen Point (36° 00'S., 137° 09'E.), a grassy mound 8.5m high, is bordered by low rocks at its base. A light is exhibited from the point.

Vivonne Bay (36° 00'S., 137° 12'E.) is a bight in the coast between Ellen Point and the mouth of the Mary River, about 1.75 miles NNE. The Harriet River flows into the W part of the bay.

Mount Mary (35° 58'S., 137° 12'E.), which rises to a height of 68m about 1.25 miles inland on the N bank of the Mary River, is a round sand hill with vegetation on it.

Mount Bloomfield (35° 58'S., 137° 14'E.), about 83m high, conical, and barren, stands about 0.75 mile inland and 2 miles E of the mouth of the Mary River.

During N and W winds, anchorage can be taken in Vivonne Bay, in depths of 9.1 to 11m. The bay is open to the SE, and although the sea is smooth during fresh SE winds, there is no space to get underway if the wind increases and a sea is raised.

From November to April, when the SE winds blow, vessels seeking shelter go to D'Estree Bay, where the sea is smoother and room is available to put to sea.

A small jetty, with depths of 1m alongside its outer end, extends 79m offshore in the W part of Vivonne Bay.

Nobby Islet (36° 00'S., 137° 16'E.), a rock 75m high, lies 4.5 miles ESE of the mouth of the Mary River and close offshore. Between Nobby Islet and Cape Gantheaume, about 9.75 miles ESE, the coast is backed by cliffs of moderate height and bordered by foul ground which extends about 0.5 mile offshore in places.

Conspicuous hills, which form the summit of a wooded range, stand about 4.5 miles NW of Cape Gantheaume. A sand hill, 95m high, and a green-colored conical hill, 86m high, stand 3.25 and 1.5 miles NW, respectively, of Cape Gantheaume.

8.7 Cape Gantheaume (36° 04'S., 137° 27'E.), about 46m high, is steep on its W side and sloping on its E side. A reef extends about 0.75 mile WSW from the cape and several rocks on it are just above water. The outer rock is awash. There are breakers about 0.1 mile W of the outer rock.

Quin Rock (36° 05'S., 137° 24'E.), with a depth of 1.8m, and with depths of more than 18.3m within 0.5 mile of it, lies 2.25 miles WSW of Cape Gantheaume. The rock is small and with a smooth sea seldom breaks. A shoal, with a least depth of 9.1m, lies 3.25 miles SSW of Cape Gantheaume.

Pelorus Islet (36° 07'S., 137° 31'E.), a bare rock, 12.2m high, lies 4.25 miles ESE of Cape Gantheaume. A reef, with several above-water rocks on it, extends about 0.2 mile E from the islet; an above-water rock lies close to its SW side. A clear deep channel lies between the islet and the cape. With a heavy swell, the sea breaks completely over the islet.

The coast between Cape Gantheaume and Cape Linois, about 7.5 miles NE, is bordered by fairly high cliffs. The latter cape is a bold. cliffy headland. The highest land near the coast is a scrub-covered hill, 92m high, about midway between the capes.

8.8 Cape Linois (36° 01'S., 137° 35'E.) is a bold. cliffy headland about 72m high. The cliffs decrease in height NE of Cape Linois and end about 1.5 miles from it.

An 18.3m shoal was reported (1961) to lie about 13.5 miles SE of Cape Linois.

Tinline Point (35° 58'S., 137° 37'E.), with a remarkable cracked rock on it, lies about 3.75 miles NE of Cape Linois. The crack in the detached rock is open when viewed from the N or S.

D'Estree Bay (35° 55'S., 137° 39'E.), an open body of water, lies between Tinline Point and Reynolds Point, about 8 miles NE; the latter point is a high headland with a steep-to fringing reef. The first 5 miles of the bay's shore is backed by white limestone cliffs, with the remaining shore being bold and cliffy.

Osmanli Reef (35° 58'S., 137° 38'E.), about 0.5 mile NE of Tinline Point, consists of a number of detached patches. The outer patch, with a depth of less than 1.8m, lies about 0.35 mile NNE of Tinline Point. There are depths of more than 9.1m close outside of it. During fine weather, the reef breaks only occasionally, and vessels are advised to give Tinline Point a berth of about 1 mile. Two remarkable sand patches are located on the coast about 1.75 miles WSW of Reynolds Point.

In the W part of the bay, the depths shoal rapidly from 9.1 to 2.7m about 0.5 mile offshore; the N side of the bay is steeper, there being depths of 9.1 to 11m less than 0.5 mile offshore.

Good anchorage can be taken in the W part of the bay, in depths of 9.1m, sand, with the extremity of Tinline Point bearing 182°, distant 2.25 miles, and the highest of the limestone cliffs in the bay bearing 275°. Little swell is felt in this position in ordinary weather and during offshore winds. By keeping Tinline Point bearing 182°, depths of 8.2 to 9.1m will be maintained to within 0.75 mile of the point. Should landing be necessary, in ordinary weather, or even with moderate SE winds, there is no surf on the beach between 0.5 mile from Tinline Point and 0.5 mile N of the highest limestone cliff.

The coast between Reynolds Point and the low sandy bight of Pennington Bay, about 1 mile NE, is cliffy. Prospect Hill, N of this bay, rises to a sandy height of 100m and is bush-covered. It stands on a sandy neck of land which connects Macdonnell Peninsula (Dudley Peninsula) with the main island.

The coast between Pennington Bay and False Cape, about 14 miles ESE, is generally cliffy and fronted in places by sandy beaches. This entire section of coast is steep-to. A river flows into the sea about 4.5 miles WNW of False Cape, but has no commercial value.

8.9 Cape Hart (35° 54'S., 138° 03'E.), a low rocky point, lies 1.5 miles E of False Cape. A breaking reef extends 0.2 mile S from the cape. Cape Hart has been reported to be a good radar target at distances up to 17 miles.

A 9m patch was reported (1961) to lie about 11 miles S of Cape Hart.

Vessels should avoid a dumping ground for barges which lies within 2.5 miles of a position 7 miles WSW of Cape Hart.

From Cape Hart the coast extends 5 miles NE to Cape Willoughby.

Kangaroo Island—East Coast

8.10 Cape Willoughby (35° 51'S., 138° 08'E.), the E extremity of Kangaroo Island, is a bold, rocky headland, 53m high. The cape has been reported to be a good radar target at distances up to 18 miles. A light is exhibited at the cape.

Sanders Bank (36° 03'S., 138° 20'E.), with depths of less than 36m, extends about 12 miles NNE from a position about 17.5 miles SSE of Cape Willoughby. A least depth of 22m lies on this bank about 15.5 miles SE of the same cape. Sometimes there is a heavy, breaking sea over this bank and 10 to 20 miles S of Cape Willoughby; it may be due to the comparatively shoal depths in this area or to the ebb current from Backstairs Passage meeting a heavy swell.

Carter Knoll (36° 09'S., 138° 10'E.), with a least depth of 36m, and Fenris Bank, with a depth of 18.3m, lie 18 and 10 miles S, respectively, of Cape Willoughby. The sea occasionally breaks heavily in the vicinity of Fenris Bank.

Threshold Bank (35° 55'S., 138° 15'E.), which has a least depth of 14.6m, lies 7 miles SE of Cape Willoughby.

8.11 Cape St. Alban (35° 48'S., 138° 08'E.) lies about 2.25 miles N of Cape Willoughby and extends in a N direction as a

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Courtesy of Robert Cook and Malcom Macdonald's Lighthouses of Australia Page
Cape Willoughby Light

narrow neck of land. The cape has been reported to be a good radar target at distances up to 12 miles. A light is exhibited at the cape.

A bank of sand and rock, with depths of less than 10m, lies up to 1 mile offshore between Cape Willoughby and Cape St. Alban. The shallowest part of this bank, known as The Scraper, which breaks except in the calmest weather, lies about 0.5 mile ESE of Cape St. Alban. The depths increase rapidly about 1 mile SE of Cape St. Alban, causing a tide rip in fine weather. During bad weather, a heavy breaker rolls right up to the shore.

Antechamber Bay (35°48'S., 138°06'E.) lies between Cape St. Alban and Cape Coutts, about 3.75 miles NW. The SE shore is high and wooded. The SW shore is low, and the NW shore is high and rocky. The Chapman River flows into the W part of the bay, but has no commercial significance.

Vessels can anchor in any part of the bay at distances of 0.5 to 0.75 mile offshore. Good anchorage can be taken in depths of 6.4m, sand, in the SE corner of the bay, between the cape and the rocky point about 1.25 miles W of the cape. Smaller craft can anchor farther in according to draft. The current is weak inside depths of 5.5m.

From its appearance it would seem that a heavy swell would enter the bay with ESE winds, but this is not the case. The strong tidal currents in the passage raise such a ripple that the swell is smoothed before it reaches the shallow water. The heaviest swell is raised during strong S gales when the swell rounds Cape St. Alban. The S part of the bay is the smoothest, but with proper precautions, a vessel may anchor in any part of the bay.

8.12 **Cape Coutts** (35°46'S., 138°04'E.) is bold, high land, with depths of more than 18.3m close offshore. The coast between Cape Coutts and Hog Point, about 6.5 miles WSW, continues bold and steep-to. Snapper Point Light is exhibited

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from a tower with shingles which form the letter "T" standing on the cliff top at Snapper Point, 1.5 miles NW of Cape Coutts.

Hog Bay (35° 44'S., 137° 56'E.) lies on the E side of Hog Point. A small village lies along its shores. A small jetty, with a depth of 5.5m alongside its outer end, extends 145m E from the NE extremity of Hog Point.

Small vessels can anchor in the bay, in depths of 3.7 to 7.3m, about 0.1 to 0.2 mile offshore.

Kangaroo Head (35° 43'S., 137° 54'E.), about 1.5 miles W of Hog Point, is a bluff, rocky point marked by a conspicuous white cairn. The land behind Kangaroo Head rises steeply to heights of 91 to 122m. The head is steep-to and the current sets rapidly past it, forming an eddy S of it during the westgoing current and causing strong ripples off the point.

Hardstaff Shoals (35° 42'S., 137° 53'E.), a group of shoals with depths of 10m and less over them, lie within 3.5 miles NW of Kangaroo Head. There is a least depth of 6.4m over the SE end of the N shoal, and 6.4m on the E side of the S shoal, 1.5 miles off Kangaroo Head.

8.13 Nepean Bay (35° 40'S., 137° 45'E.) lies between Kangaroo Head and Marsden Point, about 16 miles NW. It comprises the three large anchorages of Eastern Cove, Western Cove, and Kingscote Harbor.

Eastern Cove (35° 46'S., 137° 51'E.) lies between Kangaroo Head and Morrison Point, about 6 miles W. Morrison Point is a moderately high headland with a few rocks close off it. This cove is used principally by coasters and small craft which have been overtaken by bad weather from the NW while at the outer ports in Gulf St. Vincent. Large deep-draft vessels will not find much shelter from N winds.

The shore of Eastern Cove, between Kangaroo Head and American Beach, 2.5 miles S, is rugged and rocky. Between the SW end of American Beach and Rocky Point, it consists of alternate beaches and low, rocky points. A sandy beach forms the S shore between Rocky Point and Strawbridge Point, 2.75 miles WNW. The S side of the cove is low with wooded hills at the back.

Strawbridge Point (35° 47'S., 137° 47'E.) is the S point of the mouth of the American River, which forms the entrance of Pelican Lagoon. Extensive sand flats front the shore from Strawbridge Point to Ballast Head; these flats dry up to about 0.5 mile off Strawbridge Point.

The **American River** (35° 47'S., 137° 47'E.) and Pelican Lagoon are available only to small craft with local knowledge. The tidal currents in the American River flow at a rate of 2 to 3 knots, changing from 1 to 2 hours after the times of high and low water.

Ballast Head (35° 45'S., 137° 48'E.), about 2 miles N of Strawbridge Point, is a bluff-looking poin,t with its lower part black-colored.

8.14 Western Cove (35° 42'S., 137° 38'E.) lies between Morrison Point and Beare Point, about 8 miles NW. The S shore, between Morrison Point and a red cliffy point about 3 miles W, is high and rocky. A range of wooded hills along the S shore falls gradually to the W. Red cliffs extend about 1.5 miles W from the red cliffy point, and from there to the head of the cove is a continuous sandy beach. The land at the head of the cove is low and swampy and continues so to Beare Point, at the entrance of Kingscote Harbor.

The Cygnet River, which flows into the cove about midway between the head of the cove and Beare Point, is navigable only by boats at high water.

Beare Point has been reported to be a good radar target at distance up to 21 miles.

Frenchman Rock (35° 43'S., 137° 43'E.), a rocky patch with a least depth of 3.7m, lies 1 mile NNW of the red cliffy point and 1.75 miles W of Morrison Point. The depths between this patch and the red cliffy point are very irregular. Two rocky patches, with depths of less than 1.8m, lie about 0.5 mile offshore near the W end of the red cliffs. A drying sand flat lies between 0.25 and 0.5 mile offshore between the red cliffs at the head of the cove up to 1 mile S of Kingscote Jetty and almost to Beare Point.

Good anchorage can be taken in any part of Western Cove, except off the red cliffs on the S side, where the bottom is rocky. The depths shoal gradually from 10.1m in the center of the cove toward the W side.

There is good anchorage, in depths of 5m, with the easternmost of the W sand hills, on the S side of the cove, bearing 185°, distant about 0.5 mile.

8.15 Kingscote Harbor (35° 39'S., 137° 39'E.) lies about 1 mile S of the entrance of the Bay of Shoals, between the E side of the promontory of which Beare Point is the SE point and the S end of a drying spit about 2.25 miles ESE. This drying spit extends about 5 miles NW to Cape Rouge.

The harbor is well-sheltered from N and W winds, in depths of 5.8m. Depths of 7.3m lie S of the SE end of the drying spit, but the shelter is poor.

The coast between Beare Point and Beatrice Point, about 1 mile N, is 1.5 to 61m high, the land behind being high and cultivated on the summit. A conspicuous silo stands 0.25 mile S of the summit.

A narrow, drying sand spit extends about 0.5 mile N from Beatrice Point.

A reef, with depths of 0.9m over its outer end, extends about 0.25 mile E from a position on the coast 0.5 mile N of Beare Point.

West of Beatrice Point, the coast curves W and NE to Cape Rouge, enclosing a shallow body of water known as Bay of Shoals. A drying spit, marked by three low, small islets known as Bushy Islet and Beatrice Islets, extends almost 5 miles SE from Cape Rouge. Depths of less than 5m extend about 1.25 miles farther SE.

The obstructed channel leading into Bay of Shoals crosses the N part of this spit and has a least depth of 0.9m in the fairway. Within the bay the depths increase to 2.7 to 3m.

Kingscote (35° 39'S., 137° 38'E.) (World Port Index No. 54200), the principal town on Kangaroo Island, is the terminal for a car ferry from Port Lincoln and an export terminal for island cattle and agricultural products. Kingscote Jetty, with a depth of 4.6m at its head, extends 350m abreast of the town. The jetty is fitted out for ro-ro freight, with a lift bridge at its outer end where trailer ships berth stern-to.

In the narrow channel that leads into Bay of Shoals, the currents attain a rate of 3 to 4 knots. The flood sets N at the anchorage while the ebb SSE, at a rate of 0.5 knot at springs.

The best anchorage lies about 0.75 mile E of the jetty, in depths of 5.8m.

Small craft can anchor with Beatrice Point bearing 286°, in depths of 3.7m, soft sand.

A vessel approaching from the E, having identified Table-Topped Hill, about 6.5 miles WNW of Beare Point, should steer for it on course 285°, passing S of the lighted beacons marking the S end of the sand spit extending SE from Cape Rouge. Beatrice Point on a bearing of 314° leads W of the sand spit to the anchorage. There is a least depth of about 6.4m until within about 0.75 mile of the jetty.

Backstairs Passage

8.16 Backstairs Passage (35° 44'S., 138° 10'E.), the E entrance of the Gulf St. Vincent and Investigator Strait, lies between Macdonnell Peninsula, the E end of Kangaroo Island, and the W end of Fleurieu Peninsula, about 7 miles to the NE. It is navigable by the largest vessels and presents but few difficulties.

The SW side of the passage, which is for the most part bold and cliffy, has been previously described in paragraph 8.10 through paragraph 8.12. The NE side, which is bold and rocky, with high scrub-covered hills intersected by deep ravines, is described under the principal description of the W end of Fleurieu Peninsula, in paragraph 8.41.

North Page Island (35° 45'S., 138° 18'E.), a rocky islet, 24.4m high, about 8.75 miles ENE of Cape St. Alban, is steep-to on its S side but has depths of less than 9.1m up to 0.25 mile N of it. This islet is the largest and northernmost of The Pages, a group of rocks and islets lying near the middle of the S entrance of the passage.

South Page Island (35° 47'S., 138° 18'E.), 20m high, lies about 1 mile SSW of North Page. There is a deep channel between the two islets, but a depth of 8.5m lies in the S part of the channel, about 0.5 mile NNE of South Page.

The Pages have been reported to be a good radar target at distances up to 13 miles. Two small rocky islets, about 0.9m high, lie between 0.3 and 0.5 mile SSW of South Page. A light is shown from South Page Islet.

8.17 Yatala Shoal (35° 44'S., 138° 11'E.), with depths of less than 18.3m, lies centered about 6.5 miles WNW of North Page and breaks with any sea running. There is a least depth of 5.5m near the middle of the shoal and patches of 6.1 to 8.2m lie on its N part. The upheaval of this shoal, which is composed of gravel, coarse sand, and shell, may have been caused by the action of the tidal currents, which sometimes run at a rate of 4 to 5 knots; the depths over the shoal may vary.

Landing Shoal (35° 39'S., 137° 59'E.), with depths of less 18.3m, is 3.5 miles in extent in a N-S direction, with a depth of 13.1m at its center, 6.25 miles WSW of Cape Jervis.

Tides—Curr ents.—The tidal currents in Backstairs Passage are rapid and sometimes irregular; their influence in the S part of the entrance does not extend far outside Cape Willoughby. The flood sets NW and the ebb sets SE. The rate of the current in the passage is charted as 3 knots, but it varies according to the strength and direction of the prevailing wind, and at times is reported to exceed 4 knots.

Eastbound vessels through Backstairs Passage should keep as close to Cape Jervis as wind and weather will permit to avoid being set W by the current from that channel.

Caution.—A submarine power cable extends across the strait from a bay 1.5 miles SE of Cape Jervis to a point on the shore about 1 mile NW of Snapper Point.

A ferry plies across the passage between Hog Point and Cape Jervis.

Investigator Strait

8.18 Investigator Strait (35° 30'S., 137° 00'E.), the most direct channel to Gulf St. Vincent from the W, and between Spencer Gulf and Gulf St. Vincent, lies between the N coast of Kangaroo Island and the S coast of Yorke Peninsula. With the exception of the rocks in the vicinity of Althorpe Islands and the shoal off Point Davenport, both on the N side, and Orcades Bank, which has a least depth of 18.3m and lies almost 14 miles ESE of Althorpe Islands, it is clear of off-lying dangers. The greatest depths are formed on the S side, which is steep-to. The bottom is mostly broken shells mixed with sand, gravel, or coral.

Investigator Strait—South Side

8.19 The coast between Cape Borda and Cape Forbin, about 10 miles E, is bold and cliffy. There is a break in the cliff about 2.5 miles E of Cape Borda, where there is a small cove known as Harvey's Return.

Cape Torrens (35° 43'S., 136° 43'E.) is a high point, with cliffs about 220m high, about 6.75 miles E of Cape Borda. It divides the space between Cape Borda and Cape Forbin into two bights. In the W bight, the cliffs are high and level for a distance of 4 miles from Cape Torrens, but in the E bight they fall gradually to the De Mole River, a small river of no commercial importance.

Between Cape Forbin, a rugged cliffy point, 54m high, and Cape Dutton, about 18 miles ENE, the coast is very rugged and cliffy.

Snug Cove (35° 42'S., 136° 50'E.), the next cove E of Cape Forbin, is the most sheltered, being open only to the NW. The cove may be recognized by a small peaked islet, about 27.4m high, lying close to the point and also by a high cliff, with some white marks near its summit, about 1.25 miles E of it.

Small coasters can lie, in depths of 11 to 16.5m, close to the beach on the N side, secured bow and stern.

The coast between Snug Cove and the mouth of the Western River, about 7.25 miles E, is a range of high level cliffs. The highest part of the range rises to a height of 220m, about 3.5 miles E of Snug Cove. Inland, the terrain rises to a height of 267m about 1.25 miles S.

Western River (35° 41'S., 136° 59'E.) is a small stream which flows into a cove of no commercial importance.

Snelling's Beach (35° 41'S., 137° 04'E.), about 5 miles E of the mouth of the Western River, is bordered by cliffs which are lower than those to the W. The Middle River flows into the sea through Snelling's Beach.

During S winds coasters can anchor about 0.1 mile off Snelling's Beach in a depth of 5m, and about 0.5 mile off, in depths of 12.8m, but the bottom is rocky at the latter depth.

Vessels anchoring off the beach should give its NE point a berth of 0.25 mile in order to avoid a reef which extends from it; the sea usually breaks over this reef.

Cape Dutton (35° 38'S., 137° 09'E.), a sloping cliffy point about 61m high, lies 4 miles E of Snelling's Beach. A sunken reef extends about 0.25 mile NE from Cape Dutton, with depths of 18.3m outside it. A tidal race generates off the cape at times; in strong winds, the race resembles breakers.

The coast between Cape Dutton and Cape Cassini, about 9 miles ENE, consists of high broken cliffs intersected by several small coves. Stokes Bay, the largest of these coves, is located about 3 miles E of Cape Dutton. At times, coasters anchor here during S winds, about 0.2 mile offshore, in depths of 7.3 to 12.8m, rocky bottom. Local knowledge is necessary.

8.20 Cape Cassini (35° 35'S., 137° 20'E.), a white limestone headland, is 39m high. The terrain inland rises to heights of 213 to 244m.

Mount Macdonnell (35° 38'S., 137° 19'E.), a round-topped hill and the highest land on the N side of Kangaroo Island, rises to a height of 299m about 3.5 miles SSW of the cape. The coast up to 1.5 mile E of Cape Cassini is low and rocky and is bordered by a ledge which extends a short distance offshore. A reef, almost awash, extends about 0.25 mile offshore about 1.25 miles E of the cape. The coast up to 4 miles farther E, rises to high, dark cliffs intersected by small sandy beaches.

Dashwood Bay (35° 35'S., 137° 24'E.) is a slight indentation in the coast, about 3.5 miles E of Cape Cassini.

Anchorage can be taken in Dashwood Bay, in a depth of 9.1m, about 0.25 mile from the beach.

Smith's Bay (35° 36'S., 137° 27'E.), marked by a black boulder beach, is located about 6 miles E of Cape Cassini. The land behind the bay is low and rises S to Freestone Hill, flat-topped and 172m high.

Anchorage can be taken during offshore winds, about 0.25 mile off the middle of the beach, in depths of 10.1m.

Local knowledge is necessary in anchoring in either Dashwood Bay or Smith's Bay.

8.21 Cape d'Estaing (35° 35'S., 137° 30'E.), a 13.2m high cliff with a white face to the N, lies 2 miles E of Smith's Bay. A breaking reef extends up to 0.25 mile offshore between the bay and the cape. A rocky ledge extends about 0.5 mile N from the cape and is just awash at high water.

Emu Bay (35° 35'S., 137° 32'E.) lies between Cape d'Estaing and a rocky point about 3.5 miles to the E. The depths, which are more than 9.1m in the middle of the bay, decrease gradually toward the shore.

A jetty, about 110m long with a depth of 1.2m at its outer end, extends from the W shore of the bay, but is no longer used by commercial shipping.

Good anchorage can be taken, in depths of 9.1m, with the N extremity of White Point, about 5 miles E of Cape d'Estaing, in range 072° with the E rocky point of the bay. Smaller vessels can anchor closer in

The coast between Emu Bay and White Point is fronted by high, dark cliffs. A rocky ledge, parts of which are awash, extends about 0.25 mile N from the point.

Mount Marsden (35° 35'S., 137° 35'E.), round-topped and wooded, rises to a height of 178m, about 1.25 miles SW of White Point. East of White Point, the land becomes lower and forms Boxing Bay. There are depths of 11m near the middle of the bay, which gradually shoals toward the shore.

Marsden Point (35° 34'S., 137° 37'E.), a rocky headland of moderate height, stands 1.75 miles E of White Point. High wooded land rises about 0.5 mile W of it. Marsden Point has been reported to be a good radar target at distances up to 20 miles. A light is exhibited from about 0.5 mile W of the point. An aeronautical light is situated about 9.5 miles SSW of Marsden Point.

Good anchorage can be taken, in depths of 7.3 to 11m, good holding ground, with Marsden Point bearing between 325° and 314°, distant about 1 mile. This anchorage is out of the current and is sheltered from W to NW.

A detached 11m patch lies about 3.75 miles ESE of Marsden Point.

Investigator Strait—North Side

8.22 Althorpe Islands (paragraph 7.74) and Cape Spencer (paragraph 7.75) have been previously described.

The coast of Yorke Peninsula between Cape Spencer and Penguin Point, the W point of Marion Bay, 5 miles to the ENE, forms three bays which have cliffy and rocky points with low land to the N. The point 3 miles E of Cape Spencer is bold and steep, with high, white cliffs to the W. Several rocky islets lie about 0.2 mile offshore in a position midway between Cape Spencer and this point. There is a reef between the islets and the coast.

Stenhouse Bay (35° 16'S., 136° 57'E.) lies between the white cliffy point mentioned above and Rhino Head, a sloping cliffy headland with a remarkable pinnacle rock on its extremity, about 1.5 miles E. This head resembles the head of a rhinoceros.

A jetty extends 205m SE from the W shore of the bay, being protected from the SW swell by the W point. The berth at the head of the jetty, on its N side, is 115m long, with an alongside depth of 6.9m. During SW weather, vessels lie off from the jetty. The jetty is equipped for bulk loading of gypsum.

The following signals are displayed from the jetty:

Signal	Meaning
By day	
One yellow ball	Vessel must not berth
Two yellow balls, disposed vertically	Vessels may berth
Two yellow balls, disposed horizontally	Vessel must proceed elsewhere
By night	
One red light	Vessel must not berth
One green light	Vessel may berth

Foul ground exists about 100m SE of the head of the jetty; the depth in the approach to the jetty is 6.7m. The hull of a sailing vessel was placed about 250m SSE of the head of the jetty and sunk in that position. Part of the hulk is visible at low water. The jetty is now closed to commercial shipping.

The currents within the bay set NNW and SSE at a rate of 1 knot.

Pilotage is not compulsory. There is limited port radio service at Stenhouse Bay.

Penguin Point (35° 15'S., 136° 58'E.), a low cliffy point with sand hills at the back, lies about 1.25 miles NNE of Rhino Head. A sunken reef extends about 0.1 mile from the point.

Marion Bay (35° 14'S., 137° 00'E.) lies between Penguin Point and a cliffy point about 4.75 miles to the E. The head of the bay is shallow and fouled by a rocky bottom.

After a strong W gal,e heavy rollers set in from the S, and the whole bay becomes a mass of breakers.

A jetty, 267m long, with a depth of 2.1m at its head, extends from the shore 0.75 mile N of Penguin Point.

For a distance of about 1.5 miles E from the E point of Marion Ba,y the coast is cliffy. From here to Hillock Point, a low, rocky point with a hillock on it, about 0.5 mile farther E, the coast is sandy. After SW gales, the sea breaks heavily more than 0.5 mile seaward of these cliffs, off which the bottom is rocky and uneven.

Yorke Point (35° 14'S., 137° 10'E.), 55m high, lies 3 miles E of Hillock Point. An islet lies close under the cliff at the point. Yorke Point has been reported to be a good radar target at distances up to 18 miles.

Foul Bay (35° 11'S., 137° 15'E.) lies between a point about 2 miles E of Yorke Point and Point Davenport, a low sandy point about 8 miles NE. For a distance of about 1 mile N of the W point of the bay, the coast is cliffy; from there the shore of the bay consists of a low, sandy beach.

Foul Bay is shallow, and the depths on its W part decrease gradually to the shore, there being depths of 5.5m from 0.5 to 1 mile offshore. At the head of the bay and toward Point Davenport, the depths are very irregular, with rocky patches having depths of 3.7 to 5.5m over them less than 1.5 miles offshore.

The S swell sets into the bay, but in fine weather there is no surf on the beach. The flood sets NNE into Foul Bay at a rate of 1.5 knots; the ebb sets SW.

A rock, with a depth of less than 1.8m, lies 1 mile offshore, 3 miles WSW of Point Davenport.

8.23 **Point Davenport** (35° 10'S., 137° 20'E.), which separates Foul Bay from Sturt Bay to the E, is very low and difficult to make out from the S, as it is hardly a point on the beach.

Point Davenport Shoal (35° 11'S., 137° 22'E.), with depths of less than 5.5m, extends about 2.5 miles W and N from a position 3 miles SE of Point Davenport.

There is a least depth of 10m in the narrow channel between the shoal and the drying sand flat that extends from Point Davenport. Depths of less than 10m extend about 0.5 mile seaward from the shoal.

Sturt Bay (35° 08'S., 137° 27'E.), a bight in the coast between Point Davenport and Gilbert Point, about 8.5 miles ENE, consists of a sandy beach with some sand dunes on its W part. A level scrub-covered range, about 91m high, starts near Marion Bay and extends almost parallel to the coast to abreast the head of Sturt Bay, where it ends abruptly, forming a well-defined high shoulder which is a good landmark.

Cootes Hill (35° 06'S., 137° 28'E.) is a conspicuous, grassy elevation at the head of Sturt Bay. It is 28m high and because of its shape and the lowness of the adjoining land, it is conspicuous. Rocks, with depths of less than 1.8m, extend about 0.3 mile S from Gilbert Point. The depths in Sturt Bay decrease gradually to the shore, there being depths of 9.1m about 1 mile from the beach.

Anchorages.—Sturt Bay provides good anchorage, in depths of 7.3 to 9.1m, fine sand and clay, about 1 mile NE of Point Davenport. Local knowledge is necessary to use this anchorage. Here there is protection from winds from NE through N to SSE; Point Davenport Shoal completely breaks the SW swell. With the wind strong between SE and NE, a short sea sets in, which is made more unpleasant by the tidal currents, which set NE and S at the anchorage.

The shoulder, described above, bearing less than 359°, leads into the bay, E of Point Davenport Shoal, in depths of not less than 11m. When making for the anchorage, vessels should steer for it until Point Davenport is identified, bearing 252°.

8.24 About 1 mile E of Point Gilbert is a point, backed by sandhills, the highest of which is 20m high. A reef, awash, extends 0.2 mile SSW from this point and has depths of not more than 1.8m for a further distance of 0.3 mile.

Port Moorowie (35° 07'S., 137° 31'E.), an anchorage for vessels with a draft of not more than 3m, lies between the reef and the coast N of it. The anchorage can only be used with local knowledge.

The tidal currents set E along the 20m curve on the flood, following the direction of the coast;the ebb current sets W at a rate of 1.5 knots at springs.

The coast between the E point of Port Moorowie and Troubridge Hill, 6 miles SE, is sandy for about 2 miles, and then becomes cliffy, with sandhills, about 43m high, behind the cliffs, and with sandy beaches at the foot of the cliffs. Troubridge Hill is 31m high, with a cliff face to the sea and a grassy slope on the inland side. A light and a racon are situated on the hill.

Troubridge Point (35° 10'S., 137° 41'E.), the W point of the entrance to Gulf of St. Vincent, is about 2 miles E of Troubridge Hill. The coast between is formed by a low cliff, with no danger at a distance of more than 0.1 mile from it.

Directions.—It is best to give the N shore of Investigator Strait a wide berth. The N coast of Kangaroo Island, which forms the S shore of the strait, has no offshore dangers, and is very high and bold; on the N side of the strait, the depths vary little and do not give warning of nearing shoals. If it is necessary to approach Yorke Peninsula, depths of at least 24m should be maintained.

Gulf St. Vincent

8.25 **Gulf St. Vincent** (35° 00'S., 138° 10'E.) lies between Yorke Peninsula and Fleurieu Peninsula. When entering the gulf, the high ranges of hills on its E side may be seen for a considerable distance.

Mount Lofty, the highest part of the range, rises near Adelaide to a height of 727m. It is visible from any part of the gulf in clear weather, and is a good landmark. A white obelisk

stands near its summit, and three television towers standing together near the summit are conspicuous.

Black Hill, 466m high, and Para Hill, 214m high, are located 5.5 and 11 miles N, respectively, from Mount Lofty. The summit of Mount Bonython is situated 0.5 mile N of Mount Lofty and must not be confused with that summit.

Small vessels anchor and work cargo off any of the beaches in the gulf in fine weather, but the E shore between Cape Jervis and Adelaide is exposed to W winds, and gales from that direction bring in a heavy sea.

Gulf St. Vincent—West Side

8.26 The coast for a distance of 1 mile NNE of Troubridge Point consists of a series of broken cliffs. From this position to Sultana Point, 4 miles farther NE, the coast is formed by a sandy beach, fronted by a drying flat of sand and rocks that extends from 0.5 to 0.75 mile offshore.

Troubridge Shoals (35˚08'S., 137˚48'E.), with depths of less than 10m over them, and including two large sandbanks that dry, extend 5 miles E from Sultanta Point. Shoaling has been reported S of the E of these two sandbanks.

Troubridge Island, about 5m high, is located on the outer drying sandbank, 3.25 miles E of Sultanta Point. A light is exhibited on the W end of the island.

Marion Reef, which breaks, lies at the S end of Troubridge Shoals, and has rocks with less than 1.8m over them. It is moderately steep-to on its S side. Marion Reef Lighted Buoy is moored 0.25 mile SSE of the reef.

Tapley Shoal (35˚05'S., 137˚56'E.), with general depths of less than 10m and a least depth of 5.2m, lies 5 miles NE of Troubridge Island Light. The depths over the shoal vary due to the effect of the strong tidal currents on the sandy bottom. The shoal is steep to on its E side and the bottom, of sand and weed, can easily be seen. Tapley Shoal Light is exhibited from a pile at the N end of that shoal, 7 miles NE of Troubridge Island.

The tidal currents outside Troubridge Shoals run roughly parallel with the coast, at a rate of 2 to 3 knots at springs.

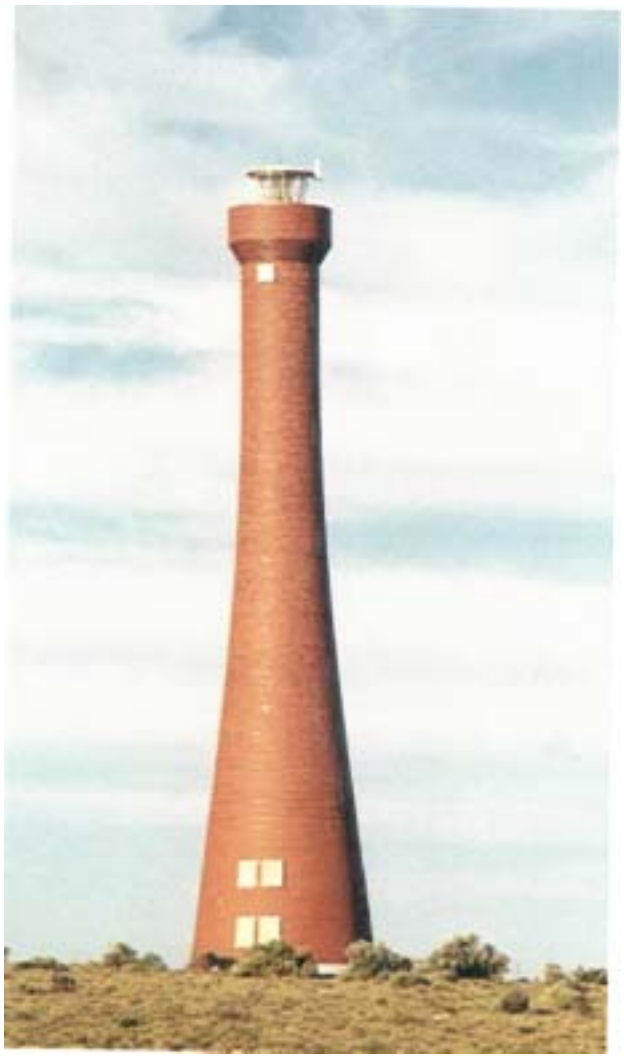
McIntosh Bank, with a depth of 17.3m, lies 8.5 miles ESE of Troubridge Island Light.

Macdonell Sound (35˚03'S., 137˚50'E.) is an open roadstead that lies N of Troubridge Shoal, between Tapley Shoal and the coast. It is bordered on the N by a coastal bank, which extends in places up to 7 miles offshore, and fronts the coast N to Rogues Point. Macdonell Sound Lighted Beacon stands about 6.5 miles NNE of Troubridge Shoals Light and marks the S extremity of the coastal bank. The sound is entered between this beacon and Tapley Shoal Light. Edithburg, Port Giles, and Wool Bay are located within the sound.

The best anchorage in Macdonnell Sound is with Troubridge Island Light bearing between 185˚ and 140˚, distant 2 to 3 miles, in depths of from 9 to 12m, fine sand.

Edithburgh (35˚05'S., 137˚45'E.) is a fishing port that no longer used by commercial shipping. It is situated 1.75 miles NNW of Sultana Point.

The coast between Edithburgh and Giles Point, 2.5 miles N, forms a bay, most of which is encumbered by a drying flat of mud and sand.



Courtesy of Ed Kavaliunas and Malcom Macdonald's Lighthouses of Australia Page

Troubridge Island Light

Giles Point (35˚03'S.,137˚45'E.)is a rounded point, low and grassy on its S side, and cliffy toward the N. Depths of less than 5.5m extend more than 0.5 mile E from it.

8.27 **Port Giles** (35˚02'S., 137˚46'E.) (World Port Index No. 54255) consists of a jetty which extends E from the shore, 4 miles N of Edithburgh. The port is the administrative center for Edithburgh.

Grain is transported from the silos to the ships by a conventional belt conveyor and loaded by telescopic booms which can feed into any hold without movement of a ship along the berth.

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Winds.—The prevailing winds are from the NE.

Tides.—The mean high water springs are 1.9m; mean high water neaps are 1.5m.

Depths—Limitations.— The approach channel and berth have a depth of 11.6m.

The jetty extends from the shore about 617m and has a berth 256m in length; the berth is on the N side of the jetty.

Vessels up to 40,000 dwt, with lengths up to 205m and beams up to 29m, can be accommodated. The maximum loaded draft allowed is 12.2m. Berthing is done during daylight hours only.

Aspect—Landmarks.— Grain silos, which are conspicuous, are located near the root of the jetty.

Pilotage.—Pilotage is compulsory and may be arranged for through Port Adelaide (see paragraph 8.39). The pilot embarks about 2.5 miles Eof the jetty in Port Giles.

Notice of arrival is required 24 hours in advance and the ETA should be confirmed 4 hours before arrival. Entry is made on slack water, during daylight hours only. The pilot vessel is equipped with radiotelephone.

8.28 Wool Bay (35°00'S., 137°45'E.), 1.75 miles N of Port Giles, is about 0.3 mile in extent, with a high, cliffy bank behind its beach. A jetty, with depths of 2.4m at its outer end, extends 180m from the beach. The jetty is closed to commercial shipping.

A shoal, with depths of 5.2 to 6m, extends 2.5 miles SE from a position 3 miles ENE of Wool Bay Jetty.

Klein Point Jetty (Farquhar Jetty) extends from the shore at Klein Point, the S point of a small cove, 2 miles N of Wool Bay Jetty. It is a T-head structure providing a berth 110m long, with a depth of 6.5m alongside.

Anchorage may be taken with Wool Bay Jetty bearing 286° and Giles Point bearing 202°, in depths of 11 to 12.8m.

Small vessels, with local knowledge, anchor about 0.25 mile off the jetty, in depths of from 3.7 to 5.5m.

The shore of Wool Bay, contained between Giles Point and Oyster Point, 8 miles NNE, presents a line of cliffs from 18 to 27m, high, until within 1 mile of Oyster Point; the land behind is slightly higher than the cliffs and has a flat, wooded outline.

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Oyster Point (34°55'S., 137°48'E.) is a low, sandy point that projects E, about 0.5 mile from the general line of the coast. It is not easily distinguished, but some huts on a grassy slope inside the point aid in recognition.

Caution.—A dangerous wreck lies about 5.25 miles ESE of Oyster Point.

The coast between Oyster Point and Black Point, about 18 miles NNE, is a mixture of low cliffs and sandy beaches, with a few prominent marks.

Beach Point, 2.75 miles N of Oyster Point, is cliffy, but the cliffs are much lower than those S of the point. Beach Point may be identified by a patch of white sand in a gully on its S side.

8.29 Oyster Bay (34°53'S., 137°49'E.) is contained between South Spit, a sandy spit, which dries in patches, that extends 3 miles NE from Oyster Point, and Beach Point. It provides sheltered anchorage from all winds, for small vessels with local knowledge, in depths of 3.7m, with Oyster Point bearing 202° and Beach Point about 270°. A light is exhibited from a beacon off the N extremity of South Spit.

Stansbury (34°55'S., 137°48'E.) is a small town on the shore of Oyster Bay, 0.5 mile WNW of Oyster Point. A water tower 58m high stands in Stansbury.

The coast between Beach Point and Surveyor Point, about 6 miles NNE, is cliffy to within a distance of about 1 mile from Surveyor Point.

Surveyor Point (34°47'S., 137°52'E.) is similar in appearance to Oyster Point. The coast becomes cliffy about one mile N of Surveyor Point.

Dowcer Bluff (34°45'S., 137°52'E.), about 1.5 miles N of Surveyor Point, is composed of white sand and limestone spots. This bluff and two red cliffs N of it are conspicuous from about 7 miles offshore.

Streak Point, about 0.25 mile N of Dowcer Bluff, is so named because of a narrow white mark down the face of the cliff. The coast again becomes cliffy 1 mile N of Surveyor Point, and continues so to Black Point, 9 miles farther N. If the sun is not shining on these cliffs, the land presents a dark flat outline, gradually rising to Black Point; the point itself, however, is a low projection from the beach.

Orontes Bank (34°44'S., 138°00'E.), with depths of less than 5.5m, extends 15 miles NNE from a position 5 miles E of Beach Point; it consists of two extensive banks, which lie parallel to the coast, about 3 to 5 miles offshore, together with two detached smaller patches. The whole shoal lies on the 10m coastal bank previously described. Orontes Bank Light is exhibited from a white metal hut on piles.

Orontes Bank Light

8.30 Port Vincent (34°46'S., 137°53'E.) (World Port Index No. 54240) is an open roadstead contained between Middle Spit, which dries in patches, and the coast N of Surveyor Point. Port Vincent is a fishing port only. At the small town of Port Vincent, situated close N of Surveyor Point, there is a wharf with a berth 35m long on its N side, having a depth of 3.4m alongside. The approach to the wharf is indicated by a range.

Good anchorage, for small vessels with local knowledge, in depths of 4m, may be taken with Streak Point bearing 326°, and the first cliffy point S of Surveyor Point, and just inside that point bearing 210°.

A water tower, 52m high, stands 0.75 mile NW of Surveyor Point.

North Spit is a drying spit that extends 1.5 miles NE from the coast, 4.5 miles N of Surveyor Point.

Port Julia, 7 miles N of Surveyor Point, has a jetty which dries at low water.

Black Point (Kooley Wurtie) (34°37'S., 137°54'E.) is a low beach point about 9.5 miles N of Surveyor Point. A sandspit, which dries in places, extends about 1.5 miles NE from Black Point; it should be given a wide berth.

Caution.—A fish haven, with a depth of 4.1m, lies 3 miles ENE of Black Point.

Port Alfred, which lies on the N side of Black Point, affords shelter for small craft, in depths of 3.7m, sand and mud. The anchorage is with Black Point bearing 162°, and a gap in the cliff about 1.75 miles WNW of Black Point, bearing 270°.

The coast for a distance of about 6 miles N from Black Point is rocky with red and yellow-colored cliffs. There is a conspicuous red cliff ,32m high, 4 miles N of Black Point.

A sandy beach succeeds the red cliffs for a distance of 4 miles. This beach forms two small points; the N one, on which there are some houses, is known as Perara. The ridge of high land approaches the coast at this point, then gradually rises N toward Hummock Mount. The last of the red cliffs on this part of the coast, commence about 1.5 miles N of Perara. They are 24m high and extend about 2 miles NE.

8.31 Ardrossan (34°26'S., 137°55'E.) (World Port Index No. 54236) is an open roadstead situated about 2.25 miles N of Perara. It is primarily a dolomite exporting port but a considerable quantity of grain and some salt are also shipped.

Tides—Cur rents.—Tides range from 1.8 to 3.1m.

Depths—Limitations.— The approach channel, 125m wide, is dredged to a depth of 9.1m.

BHP Jetty extends ESE from the shore and has a T-head berth formed of dolphins. The berth is 409m in length and dredged to a depth of 9m alongside.

Vessels up to 46,000 dwt and up to 200m in length can be accommodated.

Town Jetty extends about 415m from the shore about 1 mile N of BHP Jetty; it has two berths at its head. The berths, and the channel leading to them, have been dredged to a depth of 3m..

Aspect.—Conspicuous grain silos are situated about 0.5 mile SSW of the root of the BHP Jetty.

The channel is entered close S of Androssan Lighted Beacon; range lights are situated SW of the berth. To assist in the final approach to the berth, two beacons near the head of the jetty bear 226° when in line.

Pilotage.—Pilotage is compulsory for overseas vessels and is recommended for other vessels. The pilot boards about 1 mile E of the berth. The port is equipped with VHF radio.

Regulations.—Vessels are required to have an underkeel clearance of 10 percent of their deep draft.

Vessels should send their ETA 24 hours in advance.

8.32 Mangrove Point (34°16'S., 138°01'E.) is situated about 11 miles NNE of Ardrossan. A light is exhibited from a pile beacon at the point.

Port Price (34°17'S., 138°00'E.), at the head of Will Creek, which nearly dries, is situated at the S end of a shallow indentation close within Mangrove Point. There is a wharf at Will Creek that is 80m long, with a depth of 1.5m alongside.

Port Wakefield (34°12'S., 138°06'E.) (World Port Index No. 54230) forms the head of Gulf St. Vincent, between Mangrove Point and Sandy Point, 6.5 miles E, on the E shore. Its shores, which are generally swampy, except in the S part on the W coast, where there are some red cliffs, is fronted by a flat of mud, sand, and weed, which dries about 1.8m.

Although large, the port is so encumbered with sand and mud banks that only a small part is used for shipping.

Ross Rock, with a depth of less than 1.8m, lies near the head of the gulf.

Wakefield, a small town and fishing port, is situated at the mouth of Wakefield River, a tidal creek, 4.5 miles N of Sandy Point.

The creek and wharf, which dries at low water, can only be used at high water, when there are depths of from 3.7 to 4.3m in it and at the wharf. The wharf is closed to commercial vessels.

Anchorage can be obtained 2.5 miles WNW of Sandy Point, with Bald Hill bearing about 103°, distant 3.5 miles, in depths of 7.3 to 8.2m.

Anchorage for smaller craft lies N of the above anchorage, about 2.75 miles SW of Wakefield Wharf, in 3m. Should a vessel anchor in such shallow water as to ground, no damage is likely to occur if care is taken to keep the vessel clear of her own anchor, as the bottom, composed of sand and mud, is soft everywhere, and there is no sea.

Gulf St. Vincent—East Side—Cape Jervis to Port Stanvac

8.33 The coast between Cape Jervis and Adelaide, 50 miles NNE, is exposed to W winds, and a gale from that quarter throws in a heavy sea. On the approach of such a gale, vessels at anchor off this coast should put to sea and seek shelter in Eastern Cove, on Kangaroo Island. The coast for a distance of about 18 miles NE from Cape Jervis is bold, thence to the head of the gulf it is very low, with sand hummocks on it.

Cape Jervis (35°37'S., 138°06'E.), the W extremity of the Fleurieu Peninsula, is a high bold headland having but little vegetation. It is intersected by gullies and has several cliffy projections. The W, and most prominent, of these projections, referred to as The Cape, does not present so steep a face to the sea as the other projections, but slopes down, gradually, from the heights inland, of which Tree Hill, 345m high, 3 miles ESE of Cape Jervis, is the most prominent. A light is exhibited from a structure on the cape.

Cape Jervis Light

Return to paragraph 8.40

There is a boat harbor, with a jetty, 120m long and having a depth of 2.6m alongside, within the rocks that extend about 0.2 mile offshore near the lighthouse.

Rapid Head (35° 31'S., 138° 10'E.) projects N about 6 miles NNE of Cape Jervis.

8.34 Rapid Bay (35° 31'S., 138° 11'E.) (World Port Index No. 54202), 1 mile E of Rapid Head, is an open road with a jetty which extends 500m N from the shore, with a T-head.

Depths—Limitations.— The T-head provides a berth 222m long, icluding the dolphins, and has a depth of 8.8m alongside. The jetty is equipped with bulk loading facilities, but the unit does not traverse; ships must warp to load hatches in turn.

The approach has a least depth of 9.1m. Vessels up to 22,000 dwt can be accommodated. It is recommended that vessels berth during daylight hours only.

Pilotage.—Pilotage is not compulsory, but pilots can be arranged through Port Adelaide (see paragraph 8.39).

Regulations.—Vessels should contact the port on VHF channel 16 to obtain berthing clearance.

Signals.—The following berthing signals are shown from the jetty:

Signal	Meaning
By day	
One yellow ball	Vessel may not berth
Two yellow balls, disposed vertically	Vessel may berth
By night	
One red light or red neon strip	Vessel may not berth
One green light or green neon strip	Vessel may berth

8.35 Second Valley (35° 31'S., 138° 13'E.) is a cove formed by a slight indentation in the coast 2.5 miles ENE of Rapid Head.

The rocky point on the W side of the cove is steep-to. It provides some protection to small vessels with local knowledge from S winds, but the anchorage is exposed to W gales. A heavy sea sets in on the approach of these gales, and vessels should leave at the first sign of approaching bad weather.

A shoal, with a least depth of 4.3m, lies about 1.5 miles offshore about 2.75 miles NE of Second Valley. There is a jetty, with a depth of 4m at its head, projecting from the W point of the cove.

The **Bungala River** (35° 27'S., 138° 18'E.) enters the sea through a sandy beach 8 miles NE of Rapid Head. The townships of Normanville and Yankalilla are situated on the banks of the river.

Yankalilla Bay is contained between Second Valley and Carrickalinga Head, a bold headland, 9 miles NE. It affords good anchorage, in depths of from 12.8 to 16m, 1.25 miles NW of Bungala River.

The coast between Bungala River and the S end of Carrickalinga Head is formed by a sandy beach.

A range of hills, rising near the coast about 3 miles NE of Carrickalinga Head, extends NE about 17 miles, then curves N and W behind and beyond Port Adelaide.

Carrickalinga Hill, 258m high, is 1.5 miles ESE of Carrickalinga Head. Mount Jeffcott, 333m high; Black Hill, 343m high; and Mount Terrible, 385m high, are situated 4, 5, and 9 miles, respectively, NE of Carrickalinga Hill.

Aldinga Bay lies between Myponga Jetty, 3 miles NE of Carrickalinga Head, and Snapper Point, 6 miles NE. It is open to winds from about N to SW, but its S part is safe during S winds.

A drying reef extends about 0.25 mile NW from Snapper Point. It fringes the coast for a distance of about 0.75 mile S and ENE of it. Foul ground, with depths of less than 5m, extends 0.25 mile seaward of the drying reef.

Port Willunga (35° 16'S., 138° 27'E.), which can be identified by its white cliffs, is an indentation in the coast between Snapper Point and Blanche Point, 1.75 miles NNE.

Anchorage can be obtained in Port Willunga, sheltered from S winds by Snapper Point and the reef that extends from it. The holding ground is good anywhere the depths exceed 7.3m, but a heavy sea rolls in at times, and a vessel should leave the anchorage immediately on the approach of bad weather.

8.36 Onkaparinga Head (35° 10'S., 138° 28'E.) is a cliffy projection, 25m high, 5 miles N of Blanche Point. A ledge of submerged rocks extends off the head and the Onkaparinga River flows into the sea through a bar of shifting sand, close N of the head.

The coast between the mouth of the river and Witton Bluff, about 1 mile N, is formed by a sandy beach, which is backed by sandhills. Witton Bluff is a bold, red projection, 35m high.

Port Noarlunga (35° 09'S., 138° 28'E.) is a safe harbor for small vessels and lies between Onkaparinga Head and Witton Bluff. Two narrow reefs, which dry 1.2m in places and lie roughly parallel to the coast and about 0.2 mile offshore, extend about 0.85 mile NNW from a position about 0.55 mile N of Onkaparinga Head. These two reefs are separated by Middle Entrance Channel, which is very narrow, with depths of 6.4 to 14.6m within the entrance. There are lesser depths on the range line which leads through Middle Entrance Channel.

There are entrance channels both N and S of Middle Entrance Channel, but they are only suitable for vessels with local knowledge.

The coast in the vicinity of Witton Bluff consists of sandhills, with occasional red cliffs NNE of the bluff.

A fish haven, with a least charted depth of 15.8m, lies about 1 mile W of Witton Bluff.

A spur of the Mount Lofty range reaches the coast near Black Hill, about 4.5 miles N of Witton Bluff, changing the appearance of the coast from sandhills to abrupt cliffs.

Horseshoe Reef, which dries, lies near the outer part of shoal water that extends 0.5 mile offshore N of Witton Bluff.

Caution.—A submarine pipeline extends about 0.5 mile from the shore close N of Horseshoe Reef.

Port Stanvac (35° 07'S.,138° 28'E.)

World Port Index No. 54205

8.37 Port Stanvac, an oil refinery complex, is situated 2.5 miles NNE of Witton Bluff. The terminal consists of an offshore SBM for handling crude products and a pier, with an L-shaped head, for handling refined products.

Winds—Weather.—From September to May, the prevailing winds are from E to S; from June to August, the prevailing winds are from SW through N.

Depths—Limitations.— The pier extends over a stone causeway to an L-shaped head which provides one berth with a depth of 10.6m alongside. Vessels up to 42,000 dwt, with a maximum length of 183m and a maximum draft of 10.7m, can be accommodated at the jetty.

A depth of 6.7m, marked on its SW side by a lighted buoy, lies about 0.3 mile NE of the head of the jetty.

The offshore SBM enables vessels up to 233,000 dwt, with a maximum length of 345m and a maximum draft of 17.1m, to discharge crude oil to the refinery. A submarine pipeline extends from the SBM, 2 miles SE to the shore.

The controlling depth in the approach to the SBM is 22.8m.

Aspect.—Two conspicuous chimneys, the N of which has a flare, are located about 0.5 mile E of the root of the pier.

A conspicuous radio tower, 274m in height, stands about 2.5 miles E of the pier; it may be seen from offshore in the vicinity of Port Noarlunga.

Pilotage.—Pilotage is compulsory. The pilot boards, as follows:

1. Crude oil vessels using the SBM—about 1.2 miles NNE of the SBM.
2. Product vessels using the pier—about 2 miles NNW of the head of the pier.

The pilot remains on board while the vessel is moored to the SBM.

Regulations.—The following information is sent, via the agent, 7 days in advance of the ETA:

1. Vessel's ETA.
2. Number and nationality of crew.
3. Is the hull free of leaks?
4. Quantity of bunkers required, if necessary.
5. Crew health.
6. Are vessel's systems (inert gas, crude oil washing) in working order and conforming to SOLAS?

The vessel's ETA should also be sent 72 hours, 48 hours, and 24 hours prior to arrival. The 24-hour message should also confirm that the hull is leak-free. Any changes to the 24-hour ETA should also be sent as necessary.

Berthing at the jetty, done during daylight hours only, and unberthing, done anytime, are subject to tides and suitable re berthed at eather conditions. Vessels berth at the SBM at any time.

Anchorage.—The anchorage for crude carrier vessels is in 20m, hard sand, good holding ground, with Marino Rocks Light, described in paragraph 8.38, bearing 065°, distant 3.5 miles.

Product carriers anchor on the same bearing, 3 miles distant.

Caution.—Wrecks, with a least depth of 18m, lie 3 miles WSW of the head of the jetty.

Gulf St. Vincent—East Side—Port Stanvac to Port Adelaide

8.38 **Hallets Cove** (35° 05'S., 138° 30'E.) is a bight in the coast situated about 2 miles NE of Port Stanvac pier. From Hallets Cove, the coast remains rocky for about 2 miles to a sandy beach, which continues N for about 4 miles to Glenelg.

Marino Rocks (35° 02'S., 138° 30'E.), a 5.5m patch, lie about 0.5 mile offshore, 6.5 miles N of Witton Bluff. A patch with a depth of 5.2m, lies outside the 5m line, 0.75 miles N of Marino Rocks. Marino Rocks Light is exhibited from a structure about 4 miles NE of Port Stanvac jetty.

O'Halloran Hill, 200m high, stands 1.25 miles E of the light structure.

Holdfast Bay (34° 59'S., 138° 30'E.), the open roadstead off the town of Glenelg, about 3.5 miles N of Marino Rocks, has depths that decrease gradually from 11m, 2 miles offshore, to 3.7m 0.25 mile offshore. Southwest gales cause a heavy sea in the roadstead, but the holding ground is good.

Anchorage can be obtained, in depths of from 9 to 11m, clay, about 1.5 to 2 miles offshore, with Mount Lofty in line with Glenelg church bearing 087°. The anchorage was at one time the roadstead for Adelaide, but is now seldom used.

The remains of a breakwater, 0.2 mile long, lie parallel with the shore, and about 0.3 mile from it, off Glenelg. Lights are shown from its N and S ends.

Glenelg church stands near the center of town. The town hall tower is near the shore, 0.2 mile WNW of the church; a water tower stands near the coast, 1 mile farther N. A pipeline extends 1.75 miles WSW from the coast in the vicinity of the water tower.

Fish havens, marked by a buoy, lie off the coast in the vicinity of Glenelg.

Patawalonga Creek opens into the sea close N of Glenelg; a breakwater extends 30m NW from the S entrance point of the creek. A boat haven lies within the creek entrance. An aeronautical radiobeacon is situated about 2.5 miles NE of Patawalonga Creek entrance; an aeronautical light beacon is shown at times from a position about 0.75 mile NW of the radiobeacon.

The seaside towns of Henley and Grange are situated 4 and 5 miles, respectively, N of Glenelg.

The coast between Grange and Pelican Point, the NW extremity of Lefevre Peninsula, 8 miles N of Grange, consists of a sandy beach, backed by the buildings of the NW districts of Adelaide.

Point Malcolm, 5.5 miles S of Pelican Point, is the W extremity of the peninsula. Semaphore Jetty is a promenade jetty extending 0.3 mile offshore, 1 mile N of Point Malcolm; Largs Bay Jetty, extends 320m offshore about 1 mile farther N.

Wonga Shoal (34° 50'S., 138° 28'E.), with depths of less than 5m, extends 2.25 miles in a NW direction from Point Malcolm. There are depths of from 2.4 to 3.7m within 0.75 mile of its outer end.

A detached 5.2m patch lies 0.4 mile NW of the outer end of Wonga Shoal; midway between this patch and Entrance Lighted Beacon, 2 miles NW, depths of 6.7 and 7m are charted.

Largs Bay is situated in the vicinity of Wonga Shoal. Wrecks, with 11m and 14.6m over them, lie 3.25 miles and 7 miles, respectively, W of Largs Bay Jetty.

Port Adelaide (34° 50'S.,138° 30'E.)

World Port Index No. 54220

8.39 Port Adelaide is the capital port of South Australia. It includes the Outer Harbor and Port Adelaide Harbor, which are both landlocked, within the Port Adelaide River.

Outer Harbor, situated within the breakwaters at the entrance to the Port Adelaide River, has deep-water wharves; it is indented for the accommodation of large vessels and is regularly used by mail and passenger vessels. The port also provides facilities for petroleum product, general cargo, container, ro-ro, and fishing vessels.

The Port Control Center, 40m high, is located in the Outer Harbor at the S end of No.1 Berth. The center is equipped with radiotelephone, and all maritime channels are monitored. The station is manned continuously; the call sign is "Adelaide Outer Harbor". The station controls all shipping movements in the port and is fitted with radar.

Ports Corp South Australia Home Page

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Winds—Weather

In the morning the wind, from N to E, is from the land. During the afternoon, the sea breeze comes from the SW, except in winter, when it is mainly from between W and N. The heaviest gales occur in May, June, July, and August.

Occasionally, a depression from the interior of the continent, or the center of a tropical hurricane from the W coast of Australia, may reach the S coast. The latter usually loses much of its intensity by the time it has moved so far S and its winds are seldom destructive.

Vessels may inquire by telephone direct to Adelaide Weather Bureau for the latest information regarding marine weather conditions and forecasts. Weather forecast signals are displayed at the Customs House, which overlooks the harbor.

Tides—Cur rents

The mean tidal ranges in the Outer Harbor and in Port Adelaide are 2.4m springs and 2.0m at neaps. Strong NW winds may raise the sea level up to 1.2m above normal, while continuous SE winds may depress it by 0.5m.

The tidal currents between Wonga Shoal and the Port Adelaide River entrance turn S about 1 hour before HW and to the N about 1 hour before LW. The flood sets N and the ebb sets S across the dredged channel entrance.

Between the breakwaters and in the river to Port Adelaide, the current turns at the time of high and low water. The velocity of the current is greatest between the river entrance and North Arm, but it seldom exceeds 3 knots.

Depths—Limitations

The entrance to the Outer Harbor, and to the river, is through dredged channels marked by light beacons and indicated by ranges. The entrance channel to Outer Harbor is maintained to a depth of 12m.

The main swinging basin in Outer Harbor is about 550m in length, 420m wide, and dredged to a depth of 11m. A swinging basin in the vicinity of the container terminal is about 460m in diameter and dredged to 12m.

The Outer Harbor wharf constitutes a total of six berths.. Berth information is given in the accompanying chart.

Adelaide—Outer Harbor Berth In formation

Berth	Length	Depth	Remarks
No. 1	185m	11.3m	General cargo and livestock
No. 2	183m	11.0m	Cruise/ro-ro
No. 3	150m	11.0m	Ro-ro
No. 4	214m	11.0m	Ro-ro
Nos. 6-7	500m	12.0-13.2m	Containers

The dredged channel in the Port Adelaide River to Inner Harbor (Port Adelaide Harbor), a distance of about 7 miles, is well-marked by lighted beacons and lighted ranges.

The main channel is dredged to a depth of 9.1m as far as No. 2 Dock, and then 8.2m to the Birkenhead Bridge. Above the bridge, the river is dredged to a depth of 6.1m.

The Inner Harbor, located over a 4-mile stretch of the river, consists of numerous berthing facilities on both banks. Depths alongside range from 4.9m to 11m. The location of the wharves can best be seen on the chart.

Generally, vessels up to 81,000 dwt, with a maximum draft of 11.3m, can be accommodated at the Outer Harbor. Vessels up to 29,000 dwt, with a maximum length of 206m and a maximum draft of 10.8m, can be accommodated at the Inner Harbor.

A fishing harbor is situated close within North Arm at the Inner Harbor. North Haven, a small craft basin protected by breakwaters, is situated close S of the entrance to Outer Harbor.

Power cables span the river at points 1, 1.75, and 3 miles above the Quarantine Station. The cables have a vertical clearance of 54m and are suspended from towers, 110m high, situated on each side of the river.

A fourth set of power cables, with a vertical clearance of 59m, spans the river about 0.6 mile above the Quarantine Station.

Submarine gas pipelines cross the river close N of the E.T.S.A. power station in the vicinity of 34° 48'23"S and about 1 mile S of this position in the vicinity of 34° 49'30"S. Another submarine gas pipeline runs parallel to the shore and N from the quarantine station.

Aspect

Prominent landmarks in the approach to Port Adelaide are **Mount Lofty** (34° 59'S.,138° 43'E.),727m in elevation, and the Port Control signal station on the S side of the harbor entrance.

Conspicuous landmarks include a water tower, 76m in height, about 2 miles S of Pelican Point; a three-storied hotel

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situated near the root of Largs Bay Jetty; and a water tower, about 30m high, close SE of the root of Semaphore Jetty.

In the vicinity of the Inner Harbor, the conspicuous landmarks include the chimney of the Quarantine Station on the E bank about 1.25 miles SE of Pelican Point; a chimney, 82m high, on the W bank about 2 miles S of the same point; and two chimneys, the highest with an elevation of 163m and marked by red obstruction lights, on the E bank about 1.75 miles S of the Quarantine Station.

Entrance Channel Lighted Beacon, which marks the entrance to the approach channel, is exhibited from a tripod structure, 11m high, 2.5 miles W of the entrance between the breakwaters. Vessels should pass N of the Fairway Beacon and approach the channel with the range beacons in line with the NE of the two conspicuous chimneys in the Inner Harbor at the power station on the E bank.

Pilotage

Pilotage is compulsory for vessels entering Outer Harbor or Port Adelaide Harbor. The pilot station is at the signal tower, and incoming vessels are usually boarded 1 mile W of Fairway Beacon. Pilotage is available 24 hours, but vessels are not turned in the harbor at night. Pilots must be requested 2 hours in advance, or 4 hours in advance if outside of office hours, to the harbormaster. Vessels must maintain a continuous listening watch on VHF channel 16.

Pilotage is also provided for Port Giles and Rapid Bay.

Notice of arrival is required 24 hours in advance and the ETA should be confirmed 4 hours before arrival.

Regulations

A copy of the harbor regulations should be obtained on arrival. The following information is taken from these regulations. A vessel arriving within 5 miles of Fairway Beacon should, by day, hoist its name, and the name of the port from which it has come, by the International Code of Signals. At night, similar signals should be made by light.

Should the customs boat, showing the customs flag and pennant by day, or a flashing light by night, appear in any part of the gulf, ships should heave to and remain so during the time the customs officer is on board, or until permission is given to proceed.

Vessels should not proceed at a speed greater than 7 knots between Beacon No. 6 and Beacon No. 12 or when S of Beacon No. 27.

Vessels should not proceed at a greater speed than 4 knots while in any part of the harbor or river channel between the fairway beacons and the Jervois Bridge; when abreast of any vessel moored at a wharf or any established mooring place, or within 200m upstream or downstream or any such area; or within 200m of any dredge or marine works; or in North Arm between Beacon No. 36 and Grand Trunkway Bridge.

Ships are required to have an underkeel clearance of 10 percent of the maximum draft and a minimum keel clearance of 0.9m.

Anchorage

Vessels anchor, according to their draft, clear of the channel and navigational aids.

Vessels should take care not to anchor near the wreck which lies about 2 miles S of Fairway Beacon.

Gulf St. Vincent—East Side—Port Adelaide to Cape Jervis

8.40 Torrens Island, a low island which forms the E bank of the Port Adelaide River, has a range of sandhills in its SW part. The greater part of the island is covered with mangroves. A drying sandspit extends about 2.5 miles NW from the N end of Torrens Island, and forms the N side of the entrance to the Port Adelaide River.

A beacon stands about 3 miles NE of Fairway Beacon and marks the N limit of a spoil ground.

A lighted beacon marks the NW extremity of the sandspit and another beacon marks the SW extremity. A channel for small craft lies between Torrens Island and the sandspit on the W side and the mainland on the E.

St. Kilda (34° 45'S., 138° 32'E.) is located on the mainland, about 1.5 miles NE of the N end of Torrens Island. Port Gawler is a small creek that enters the gulf 6.5 miles NW of St. Kilda.

The coast between Port Gawler and Great Sandy Point, about 14 miles NNW, is low and swampy. It consists of alternating sandy beaches and mangrove coast. The depths decrease gradually to the sand flat that fronts this coast, and depths of less than 5m extend about 8 miles offshore W of Great Sandy Point. Depths of less than 11m extend 12 miles SW from Great Sandy Point, forming Long Spit Shoal. The least depths over the shoal consist of isolated patches of 6.1m, in the vicinity of Long Spit Light, which stands about 9.5 miles SW of Great Sandy Point.

Long Spit Light

The coast between Great Sandy Point and Sandy Point, the E entrance point of Port Wakefield, 14 miles NNW, is a continuous low, sandy beach. Foul ground extends 3 miles offshore between Great Sandy Point and Sandy Point. A rock, with a depth of 1.5m, lies 3.75 miles NW of Great Sandy Point.

Sandy Point (34°16'S., 138°09'E.), 13.5 miles NNW of Great Sandy Point, is a low mangrove point fronted by a drying sandspit that extends 2 miles offshore. A low, wooded range that rises above the mangrove swamp between Sandy Point and Wakefield, about 5 miles to the N, ends in Bald Hill, 18m high, 1 mile within the point.

Bald Spit extends about 2.25 miles WSW of Sandy Point; the spit has depths of less than 5m.

A historic wreck lies about 4 miles NNW of Long Spit Light; unauthorized diving is prohibited in the vicinity of the protected zone around the wreck.

A prohibited area, marked by lighted beacons and the limits of which may best be seen on the chart, is situated adjacent to the shore S of Sandy Point.

The gulf N of Sandy Point has been previously described in paragraph 8.31.

Cape Jervis to Cape Northumberland

8.41 The coast between **Cape Jervis** (35°37'S., 138°06'E.) and the Murray River, about 39 miles E, presents a varied appearance, from the bold rocky hills in the W to the sandhills close W of Murray River which gradually fall to the flat, bare white sand near the river.

The coast trends 1.25 miles S from Cape Jervis to Lands End, then 6.25 miles ESE to Porpoise Head; it is bold and rocky, with high scrub-covered hills intersected by steep ravines. Porpoise Head has been reported to be a good radar target at a distance of 20 miles.

Tunk Head projects S from the coast about 7 miles E of Porpoise Head. There is a bold, cliffy point 2 miles E of Tunk Head, and 5.5 miles farther E is Newland Head, formed by a steep cliff. The coast immediately W of Newland Head is sandy, with rocky points between the beaches and backed by high land.

The depths offshore between Cape Jervis and Newland Head exceed 16.5m, except SE of Porpoise Head, where the 20m curve lies about 2.5 miles offshore.

A strong tidal current is located about 1 mile offshore between Cape Jervis and Lands End.

A detached 16.5m patch lies 2.5 miles SSE of Lands End.

8.42 Newland Head (35°39'S., 138°31'E.) is the W extremity of Encounter Bay and the Murray River, 18 miles ENE, marks its E extremity.

The coast between Newland Head and Rosetta Head, about 5 miles NE, is formed by a high, steep cliff, which becomes low and grassy toward Rosetta Head. Newland Head has been reported to give strong radar returns from a distance of 22 miles.

Rosetta Head is a grassy mound, 97m high, cliffy on its E side, and covered with granite boulders; it is steep-to on its E and S sides.

From Rosetta Head, the coast trends 5 miles NE to Freeman Nob. The appearance of the land backing this coast is that of gently sloping hills, rising to an elevation of 150 to 175m, about 2 miles inland, with wooded summits and cultivated sides, broken N of Victor Harbor by the gap formed by the Hindmarsh River as it flows toward the sea.

West Island (35°37'S., 138°35'E.) lies 1 mile SW of Rosetta Head, abreast a small projection on the coast. The island is 40m high and steep-to on its seaward side, but there is a rocky ledge, which generally breaks, between it and the coast.

Wright Islet, 24m high, lies 0.35 mile NNE of Rosetta Head; Granite Island lies 1.75 miles farther NE.

Seal Rock is a mass of granite boulders, 12m high, located 1 mile SE of Granite Island, which shows a light from its E end. A rock, with depths of 8.2m and on which the sea breaks with a heavy swell, lies 0.25 mile E of Seal Rock.

A reef, on which the sea breaks heavily, extends 0.2 mile W of Seal Rock; a rocky ledge, with a depth of 4m in places, connects this reef to the foul ground that fronts the coast W of it. The sea breaks heavily over this ledge, in places, during SW gales.

8.43 Victor Harbor (35°34'S., 138°38'E.) (World Port Index No. 54190) lies at the head of a bight that is formed between Granite Island and Freeman Nob, 2.75 miles NE. A causeway connects the N side of Granite Island to the mainland NW and a breakwater extends about 0.15 mile ENE from the E side of the island.

There is some protection in the harbor except during SE winds.

A jetty, with depths alongside of 4.5 to 5.5m, extends from the island near the root of the breakwater; it is closed to commercial shipping. A light is shown from the head of the jetty.

Anchorage can be obtained, in depths of less than 9m, rock, with a thin coating of sand; the anchorage is not good.

Vessels bound for Victor Harbor should round Seal Rock at a distance of not less than 0.5 mile, however, during a SW gale or with a heavy swell that follows one, it is advisable to give it a berth of 1 mile. After rounding the rock, steer N and then approach the anchorage on a safe bearing of Bracken House, 1.25 miles NNW of Granite Island.

8.44 Freeman Nob (35°33'S., 138°41'E.) is the E extremity of Victor Harbor. A white obelisk is situated on its summit.

Port Elliot is a bight in the coast lying between Freeman Nob and Commodore Point, 0.35 mile NE. The port is used only by boats and small local vessels.

Pullen Island, a mass of granite boulders, 6m high, lies about 0.35 mile E of Freeman Nob.

The Sisters, two above-water rocks, lie 0.15 mile NNW of Pullen Island and The Twins, a detached shoal with two rocks nearly awash, lie 0.1 mile E of Freeman Point. No attempt should be made to pass between Pullen Island and Freeman Nob.

From Commodore Point, the coast trends SE about 10 miles to the entrance of the Murray River.

The coast from Middleton, about 2 miles NE of Commodore Point, to the Murray River is backed by bush-covered sand hills, about 24m high, which slope gradually downward until within 1 mile of the Murray River, which is a flat of bare white sand.

Frenchman Rock, awash, lies about 0.75 mile NE of Commodore Point. About 3.5 miles E of Frenchman Rock, a shoal patch, with depths of 7.3m, extends 1 mile offshore.

Return to paragraph 8.16

Heavy surf rolls in from Middleton to the entrance to the Murray River.

8.45 The **Murray River** (35° 35'S., 138° 53'E.), the largest river in Australia, enters the sea through the large, but shallow, lagoon of Lake Alexandrina. A system of barrages, also including locks, provides a 1.8m navigable channel between **Goolwa** (35° 30'S., 138° 47'E.), 7 miles within the mouth of the river, and Mildura, a town situated on the river about 300 miles from the mouth.

The entrance, now but rarely used, is obstructed by a bar that extends 0.75 mile seaward of it, which is constantly shifting and altering in extent, depth, and position. The bar, consisting of sand, shells, and small stones, usually breaks heavily across the entrance, except in exceptionally quiet weather. There are depths on the bar from 2.1 to 2.4m; however, within 2 hours before or after HW, depths of 3 to 3.4m might be depended on as the least water, except for 3 or 4 days during neap tides with SE winds, when there are depths of barely 3m at HW.

In the entrance to Murray River, the outgoing current is strongest at low water, the ordinary rate then being 3 knots on the surface in the deep part and 4 knots on the bar.

Without local knowledge of the bar, no attempt should be made to enter the Murray River. There is no difficulty in navigating to Goolwa for any craft not exceeding 1.8m draft that can cross the bar.

The Murray River is no longer used by any commercial shipping. The coast between the Murray River and Cape Jaffa, at the S end of Lacepede Bay, 91 miles SSE, is formed by a continuous sandy beach.

This coast is backed along the whole distance to Kingston by sandhills, from 27 to 50m high, which are so alike it is difficult to identify any of them, though some of the bare patches might be identified. At a distance of from 6 to 7 miles offshore, however, no marks can be made out.

The surf is heavy at all times, and in W and SW gales, extends from 3 to 4 miles offshore in places.

Granite Rocks (36° 40'S., 139° 51'E.) are two conspicuous rocks located on the beach near the sea; the larger of the two is 6m high. These rocks show black against the sand, and some drying rocks extend about 100m seaward from them.

Sunken rocks. with depths of 8.2 to 9.1m, lie from 2 to 5.5 miles NNW of Granite Rocks.

Nation Rock lies 1 mile SW of Granite Rocks; it has a pinnacle, which dries 0.6m, but the sea seldom breaks on the rock. A small rock, with a depth of 2.1m, lies 1 mile SW of Nation Rock.

8.46 Lacepede Bay (36° 50'S., 139° 44'E.) is formed by a bight in the coast between Granite Rocks and Cape Jaffa, about 19 miles SSW. The sandy shore is backed by sandhills, gradually decreasing in height, for a distance of 7 miles S of Granite Rocks.

Kingston is situated on the S side of the entrance to Maria Creek, at the head of the bay.

Between Kingston and Cape Jaffa, the land is low and swampy, with a wooded bank behind the sandy beach; there is a prominent white sand patch on the bank above the beach, 9 miles SW of Kingston.

Port Caroline (36° 49'S., 139° 48'E.), an open roadstead, is the name given to the anchorage off the town of Kingston, which is a fishing port only. The jetty at Kingston extends 412m from the shore, and has a depth of 2.4m alongside; it is closed to commercial shipping. A light is shown from the end of the jetty. A conspicuous water tower is located 0.55 mile SE of the root of the jetty.

Anchorage.—A vessel may anchor safely, according to draft, anywhere between Kingston and Cape Jaffa, in depths of less than 9.1m.

The anchorage off Kingston, for vessels of moderate draft, is with the light on the jetty bearing 109°, 1.75 miles distant, in depths of 8m, sand and weed.

Lacepede Bay, although exposed to ocean swell, affords safe anchorage in all weathers even in W gales.

8.47 Cape Jaffa (36° 58'S., 139° 40'E.) is a low sandy point; its sea face is about 1 mile long. A wooded range rises near the S part of the cape and reaches a height of 77m at Mount Benson, about 8.5 miles SE. A group of dwellings called King's Camp is located 0.5 mile E of the NW extremity of the cape.

Margaret Brock Reef is an extensive danger, with depths of less than 3.6m, the outer extremity of which lies 4.5 miles W of Cape Jaffa. A light is exhibited from a rock, that dries 2m, near the center of the reef. The extremities of the reef do not always break; however, the sea often breaks in bad weather, up to a distance of 5 miles outside the reef, and with such violence as to jeopardize a small, deeply laden vessel.

North Rock, with a least depth of 2.1m over its N extremity and on which the sea breaks at times, lies 1.5 miles N of the lighthouse. An obstruction was reported (1956) 1 mile N of North Rock.

South Breaker is a 3.7m patch 2.75 miles S of the lighthouse. Several patches, on which the sea breaks at times, lie between South Breaker and Margaret Brock Reef.

Vessels bound for Kingston first make Margaret Reef Light. When rounding the reef, keep in depths of 28m to ensure passing more than 2 miles from any part of it.

There is an appreciable tidal current in Lacepede Bay, but both inside and outside Margaret Brock Reef, there is a strong N set after E winds; this N current, setting NE round Cape Jaffa, causes a set toward the reef.

8.48 Cape Thomas (37° 05'S., 139° 45'E.) lies about 8 miles SSE of Cape Jaffa.

The coast for about 3 miles S of Cape Jaffa is lined with sandhills that rise to a height of 22m. Farther S, it is formed by a low bank which continues as far as Cape Thomas. The wooded range that rises near the S part of the cape forms the background for this coast.

Rocks and foul ground extend up to 2 miles offshore along this coast, which must not be approached to closely.

Guichen Bay (37° 09'S., 139° 46'E.) is contained between Cape Thomas and Cape Dombey, 5 miles S. The E shore of the bay, for a distance of about 6 miles S of Cape Thomas, is formed by a sandy beach with a low bank behind it. The inland wooded range, 3 miles from the beach, is about 30m high. The S shore of the bay is composed of rocky points and sandy bays.

There are depths of 9.1 to 11m over the greater part of the bay.

A rocky point projects S about 0.75 mile ESE of Cape Thomas; drying rocks extend a short distance offshore from the S shore of the bay.

Godfrey Islands (37° 05'S., 139° 43'E.), lying 1.25 miles SW of Cape Thomas, are a rugged broken group of above-water rocks, the highest being 12m.

Foul ground lies between the rocks and the cape. The sea breaks over the submerged rocks that lie about 0.3 mile N of the N rock of this group.

The Black Pigs, awash at LW, are situated 0.75 mile SSE of Godfrey Islands; rocky reefs with depths of less than 5m over them lie between.

8.49 Cape Dombey (37° 10'S., 139° 44'E.) is the NW extremity of the headland forming the S point of Guichen Bay. A light is exhibited at the cape.

Snewin Rock, with a depth of 7.9m and with depths of more than 14.6m all round, lies 2.25 miles NW of Cape Dombey; it breaks only when there is a high W swell.

South Reef, composed of rocks, awash, extends 0.6 mile NW from Cape Dombey. The sea nearly always breaks on this reef; it should be given a wide berth.

A shoal patch, with a depth of 7.9m, lies about midway between South Reef and Snewin Rock. A 6.7m patch lies 0.25 mile NNW of South Reef.

Robe (37° 10'S., 139° 45'E.), a fishing port, is located on the S shore of Guichen Bay, about 0.5 mile E of Cape Dombey.

A jetty extends 150m ENE from the E side of the headland, 0.35 mile ESE of Cape Dombey. The jetty, which is closed to commercial shipping, has depths of 3m alongside. Robe Light is exhibited from a tower about 0.5 mile SE of Cape Dombey.

Courtesy of Grant and Tracey's Lighthouse Page
Robe Light

Anchorage, in depths of 7m, fine sand, with Cape Dombey bearing 260° and Robe Point Light bearing 172°, is safe with SE winds, which are most frequent from November to April. With W and NW winds, which are frequent from May to October, it is unsafe.

Caution.—Heavy breakers may be encountered at times about 1.5 miles E of Cape Dombey.

8.50 Cape Lannes (37° 12'S., 139° 44'E.) projects W from the coast about 1.5 miles S of Cape Dombey. A reef extends 1 mile WNW from Cape Lannes; there are some above-water rocks at the inshore end of the reef.

The coast between Cape Lannes and Cape Martin, about 23 miles SE, consists of alternate rocky points and sandy beaches, backed by sand hills that are more than 30m high.

Bishop's Pate is a round bare sand hill that rises to a height of 34m in a position near the coast 4 miles SSE of Cape Lannes.

Rabelais Peak is a conspicuous pointed hill that rises to a height of 48m in a position near the coast about 5 miles farther SSE. A wooded range, which rises to a height of 77m about 5 miles inland from Rabelais Peak, is seen above the coastal range when more than 5 miles offshore. Between this range and the coastal sandhills there are four large salt lakes.

Drying rocks and some isolated submerged patches extend up to 1 mile offshore along the coast between Cape Lannes and Rabelais; the sea breaks heavily on this coast. A number of bare sandhills, which rise above the S stretch of this coast, are conspicuous when viewed from S; the highest of these is 33m high. Farther S, between these bare sandhills and Cape Martin, the hills are higher and not so bare. A green-colored point, backed by a wooded hill, 47m high, projects SW from the coast, about 8 miles NNW of Cape Martin. The coast between the point and Cape Martin becomes more cliffy than that farther NW.

The coastal waters between Cape Lannes and Rabelais Peak are encumbered by rocks, which dry, and some isolated submerged patches, extending up to 1 mile offshore in places; the sea breaks heavily on this coast and landing is impossible.

A reef lies roughly parallel with the coast for a distance of 6.5 miles SE of Rabelais Peak, and extends 1.5 miles offshore near its S end. The depths abreast the conspicuous sandhills are irregular for a distance of about 3 miles offshore and for a distance of 3 miles SE of them, causing high rollers and overfalls when the swell is high.

The coast for about 2 miles NW of Cape Martin is fringed with reefs and submerged rocks, which extend up to 0.35 mile offshore in places.

Vessels transiting between Guichen Bay and Rivoli Bay at night should maintain depths of not less than 37m and ensure being at least 5 miles offshore.

8.51 Cape Martin (37° 30'S., 140° 01'E.), 25m in elevation, projects S from the coast at the NW corner of Rivoli Bay. The cape is fringed by a reef;a large detached reef lies close NW. A light is exhibited from a structure about 0.5 mile N of the S extremity of the cape.

Rivoli Bay (37° 33'S., 140° 05'E.) is an indentation in the coast between Cape Martin and Cape Buffon, about 6.25 miles SE.

The central part of Rivoli Bay is obstructed by numerous reefs, rocky patches, and shoals and is dangerous for navigation.

Glen Point is a rocky point located 0.5 mile NE of Cape Martin. A sandy beach forms the shore of the bay between

Courtesy of Grant and Tracey's Lighthouse Page
Cape Martin Light

Glen Point and the promontory of Cape Buffon, at the S end of the bay.

Lake George approaches within 0.15 mile of the shore close N of Glen Point. East of the lake, the sandy beach is backed by a range of sand hummocks, about 18.3m high. A range of wooded hills, 46 to 55m high, parallel the E shore, at a distance of 2 to 3 miles inland.

Lake Frome, a freshwater lake, lies about 1 mile E of the S end of the bay. Freshwater swamps extend for a distance of nearly 0.25 mile from Lake Frome toward the beach.

8.52 Penguin Islet (37° 31'S., 140° 01'E.), 16m high, is a rocky islet lying close SE of Cape Martin. On its N end there is a perpendicular cleft down to the water's edge; when open to the E and W, the cleft is a good mark. A white stone tower, formerly a lighthouse, stands on the S part of the islet.

A rock, awash, lies about 0.25 mile SSE of Glen Point.

De Mole Reef, with depths of 4.5m and which breaks in a moderate swell, lies about 1 mile E of Penguin Islet.

The W extremity of Ringwood Reef, which has depths of less than 1.8m, is the outermost danger, and lies 2 miles SSE of Penguin Islet; some parts of this reef always break.

West Rock, with depths of 4.9m and on which the sea breaks heavily at times, lies 1.25 miles SSE of Penguin Islet. An 8.2m rocky patch lies 0.2 mile N of West Rock. With a heavy swell, this patch breaks at times; breakers extend across from West Rock to Lipson Rock, 0.6 mile ENE, which is just awash and on which the sea breaks, even in calm weather.

Sherbert Rock, a 2m high mound of stones, lies 2 miles ENE of the W extremity of Ringwood Reef.

The Beak is a dangerous reef, on which the sea breaks heavily, that lies outside numerous detached rocks off the W side of Cape Buffon. The outer end of The Beak lies 0.75 mile SW of Cape Buffon.

A shoal, with depths of 8.5 to 9.1m and that breaks at times, lies 1.75 miles W of Cape Buffon.

A field of kelp, rising to the surface from depths of 16 and 18m, extends SSE from Ringwood Reef to a position abreast Cape Buffon.

8.53 Beachport (37° 30'S., 140° 01'E.) is a small town, situated on the shore N of Glen Point, close within Cape Martin. An iron jetty extends 0.4 mile from the beach, abreast the town. There is a depth of 4m alongside the jetty. The jetty is closed to commercial shipping. A light is exhibited on the head of the jetty.

Anchorage off Beachport, is suitable for a number of vessels of less than 4.6m draft and with local knowledge, in a pool with depths of from 5 to 7m, firm, white, marl-like clay, good holding, 0.5 mile offshore, E of the town.

There is a least depth of 5.5m in the fairway of the approach, which lies between De Mole Reef and the rock awash 0.25 mile SSE of Glen Point.

Courtesy of Grant and Tracey's Lighthouse Page
Penguin Islet

Anchorage may be taken in the S part of the bay, with Cape Buffon bearing 231˚, 0.5 mile distant, in depths of 5.8m, marl, good holding ground.

With a W to WSW gale, the swell rolls directly into S anchorage. The sea breaks in heavy rollers across the entrance. In the event of the approach of a W gale, it is advisable to get underway and make for the N end of the bay; these gales are uncertain, but are not frequent in the summer.

In strong S and SE winds, which may continue for weeks in the summer, the S anchorage is smoother.

8.54 Cape Buffon (37˚ 35'S., 140˚ 07'E.), which projects about 0.5 mile NW from the S end of the bay, is 11m high and cliffy. A light is exhibited from the cape.

Grey (Greytown) lies at the S end of the bay, within the promontory of Cape Buffon, where there is an angled jetty 275m in length and marked by a light, used by fishermen.

Caution.—Special care and attention is required when navigating along the coast between Cape Martin and Cape Northumberland, about 40 miles to the SE. The prevailing winds are SW. A continual swell sets toward the coast, which, together with the uneven bottom, produces an irregular sea. In bad weather, with S winds, soundings should be carefully attended to.

Depths of not less than 46m should be maintained at night; these depths, over a rocky bottom, are found about 5 miles offshore. A 10.9m patch lies about 3 miles offshore, 9 miles SSE of Cape Buffon Light.

The coast for a distance of about 5 miles SE from Cape Buffon is cliffy and is backed by wooded hills, which rise to a height of 60m. Farther SE, the coastal hills are sandy and not so high; the most conspicuous one is a sandhill, 44m high, about 9.5 miles SE from Cape Buffon.

The most conspicuous hill along this coast, which stands out boldly and is visible to a vessel more than 3 miles off the land, is Mount Muirhead, 150m high, which is isolated in a position about 14 miles E of Cape Buffon.

Mount Burr, 240m high; Mount Lookout, 216m high; and The Bluff, 201m high and with a very steep fall on its S side, are all part of a continuous range. The range rises 18 miles E, and runs about 21 miles ESE of Cape Buffon. A conspicuous radio tower stands on the summit of Mount Burr.

The coast for a distance of 5 miles S of Cape Buffon has drying rocks extending 0.25 mile offshore. For a distance of 8 miles farther SE, the coast is steep-to, except for a rocky patch, with depths of less than 1.8m and that lies 0.5 mile offshore, 6.5 miles SE of the cape.

From a position about 13 miles SSE of Cape Buffon to Carpenter Rocks, 11 miles farther SSE, there are abovewater rocks a short distance offshore; a reef, on which the sea breaks, fronts the beach for the entire 11-mile distance, and extends up to 1 mile offshore in places.

8.55 Cape Banks (37˚ 55'S., 140˚ 23'E.) is a rocky point, 15m high, 24 miles SSE of Cape Buffon. A light is situated on Cape Banks.

Carpenter Rocks are two black rocks lying close off Cape Banks. The rocks have been reported to give good radar returns

Courtesy of Grant and Tracey's Lighthouse Page
Cape Banks Light

up to 11 miles. The coast between Cape Banks and Douglas Point, 12.5 miles SE, is low and sandy, the highest part being a sandhill, 32m high, about halfway between them.

Douglas Point (38˚ 02'S., 140˚ 35'E.) is a green-colored point, 23m high. The coast between Douglas Point and Middle Point, 2.25 miles farther ESE, and then to Cape Northumberland, 2.25 miles farther in the same direction, is low, with one sandhill on it, 1.5 miles E of Douglas Point. Mount Gambier rises to a height of 192m, in a position about 14 miles NE of Douglas Point.

There is a small bay immediately S of Cape Banks, with a reef across its entrance, which extends S from Carpenter Rocks, and another reef off the beach inside. There is a sandhill, 38m high, at the back of the bay.

A rock, with depths of 9.1m, lies 3.75 miles S of Cape Banks. It is steep-to and breaks heavily in a SW swell.

Courtesy of Grant and Tracey's Lighthouse Page
Cape Northumberland Light

Bucks Bay is a small opening in the reefs 1.25 miles SE of Cape Banks.

Pelican Point (37˚ 56'S., 140˚ 25'E.), 3 miles SE of Cape Banks, is fronted by rocks, and here the 10m coastal bank extends 2 to 3 miles SW.

Bungaloo Bay is a small indentation in the coast immediately NW of Pelican Point.

Umpherstone Bay is contained between Douglas Point and Middle Point; the indentation immediately E of Middle Point is known as Blanche Bay.

Middle Point (38˚ 02'S., 140˚ 37'E.) is formed by a sandhill which rises to a height of 17m. The coast for a distance of 1 mile E of the point is low, with swampy land at the back of it; sandhills then commence and continue as far as Cape Northumberland, about 1.25 miles farther SE.

Rocks, which dry, fringe the coast between Middle Point and Cape Northumberland, and foul ground, with depths of less than 1.8m, extends about 0.75 mile offshore in places.

Between Cape Banks and Cape Northumberland, there are fields of kelp which extend for a distance of 1 to 4 miles offshore. The kelp does not appear to grow where the depths are greater than 28m.

For the description of **Cape Northumberland** (38˚ 03'S., 140˚ 38'E.) and the coast of Australia farther E, see Pub. 127, Sailing Directions (Enroute) East Coast of Australia and New Zealand.

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